

The United States

MILLER

AND THE MILLING ENGINEER.

Sixteenth Year.—No. 8.

MILWAUKEE, AUGUST, 1891.

Subscription Price \$1.00 Per Year.

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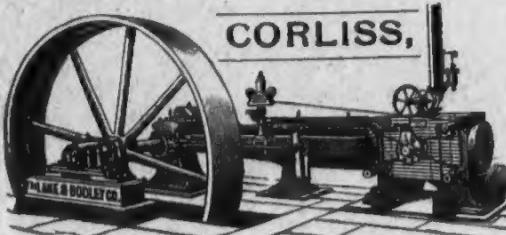
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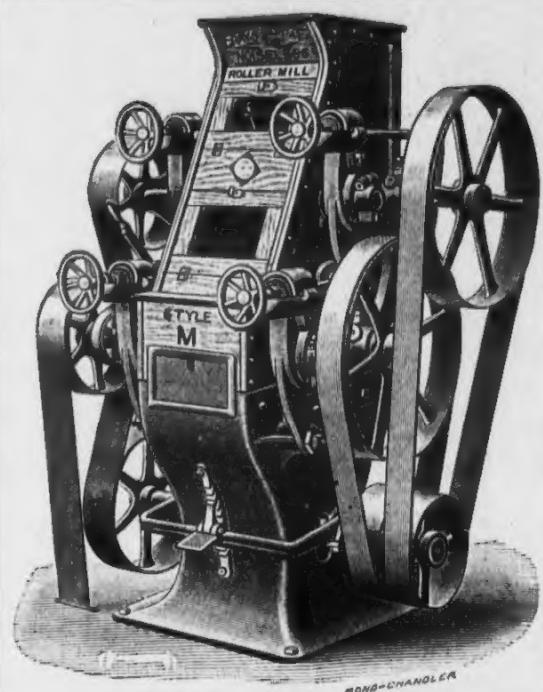
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The United States

WHEAT-ER

AND THE MILLING ENGINEER.

Sixteenth Year.—No. 8.

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WHEAT FROM START TO FINISH.

THE following article by C. G. Williams was awarded the first prize of \$25 by the *Practical Farmer* among a number on the subject of wheat raising: "Of all the crops grown by the farmer, what is there that finds more ready sale at fairly good prices, taking into consideration the labor involved, than wheat? The seeding time comes at a season of the year when the rush of spring planting and harvest is over and the farmer has time to attend to it. Of course, if his rotation be clover, potatoes and wheat (a most admirable one), potato digging will make lively times for him. But the much less work needed to prepare the seed-bed of wheat, using disk harrow instead of plow, will make it an advantage after all, and will give a larger yield than can be secured in any other way. The old method of summer fallowing, while producing a good yield of wheat, is not as profitable. Better grow a crop of potatoes or sweet corn than have the land idle the best part of the growing season. In thin soils this may not be possible; circumstances will have to govern on the start. However, after a few years of clover-growing, one ought to be able to control circumstances. If wheat follows oats or clover, let the ground be plowed as early as possible. I frequently start the plow in between the oat bundles, certainly want to as soon as the oats are removed. Then use harrow and roller alternately until the surface is made very fine. The rolling will give a firm seed-bed, and this with a fine surface seems to be the best possible preparation for wheat. In no case should the drill be started when the team will push 3 or 4 inches into the soil; more rolling in necessary. Starting the plow early in August or the last of July will give the land abundant time to settle and prevent this. Harrowing once a week will help the process and prevent growth of weeds. This can be done with the 10 or 12-foot smoothing harrow at slight expense. A team will get over a good many acres in a day. In this latitude (about $41\frac{1}{2}$ °), I get the best results one year with another, from drilling my wheat about the 1st of September. The 15th will do, and frequently later seeding is successful, but I prefer August 25th to September 15th, unless I am seeding after potatoes or corn. I always endeavor to let the roller precede the drill, as one can see what he is doing better after the roller than the harrow. It looks very unworkmanlike to see bare strips between the drill marks, and is a source of serious loss as well. I drill the seed about two inches deep. As to quantity, I use from a bushel and a peck to a bushel and a half of carefully cleaned seed; no chess or rye needed. In some soils perhaps a little less will do. As to fertilizers, I find that the best ammoniated super-phos-

phates are indispensable on my shale clay soil. I use about 300 pounds per acre, always with profit. It frequently, in bad seasons, makes the difference between a total failure and a paying crop. On sandy soils I judge that results are not nearly so satisfactory. One will have to experiment for himself, remembering that a cold, clay soil is more likely to be benefited than a sandy one. After the seed is in the ground, unless the field is tile-drained, see that the water can run off at low places—an occasional shallow ditch will save one a few bushels of wheat. About the 1st of March, I would sow six quarts of clover seed per acre. If sown by hand perhaps eight. I used to drill four to six quarts of timothy with the wheat, but in favorable falls this would get such a start as to crowd out the clover and spoil my rotation, so I dropped the timothy. I think we are ready for the binder now. Thanks to our inventors for giving us iron arms to hug the wheat bundles! Great care needs to be taken lest the wheat be hauled in too soon. Better let it cure in the shock than mold in the mow or stack. I wish I did not have to say stack, for I have seen too much wheat spoiled in the stack. I prefer to stack some hay and move it into the barn after threshing rather than stack any wheat out. I succeeded last year in growing and marketing my wheat at a cost of 80 cents per bushel, average yield being twenty-nine bushels per acre."

THE FARMERS' WHEAT COMBINE.

Views of Hon. Ignatius Donnelly.

IT IS said that the Farmers' Alliance Committee has sent out a million circulars to farmers throughout the country advising them to hold back their wheat and thereby to cause higher prices. It is a dangerous game to "monkey" with and in the following circular issued by Hon. Ignatius Donnelly to the Alliance organization in Minnesota he sounds a timely note of warning. Here is the circular:

To the members of the Farmer's Alliance of the state of Minnesota:

As president of your State Alliance it is my duty to see that no injury be inflicted upon the organization which I can prevent; I therefore take the liberty of issuing this circular letter.

The editor of the *State*, of St. Paul, has issued an interesting and valuable compendium of information, tending to show that the price of wheat is far below its real value, and must rise in the near future; and that the farmers of the whole country should hold their wheat out of the market until the demand brings it to a proper level. Now while I agree with much of this reasoning, and do not impugn any man's motives, I nevertheless feel that it is my duty to say that the State Alliance of Minnesota has nothing to do with this movement; the executive committee has never been consulted about it; neither, so far as I am aware, has the National Alliance officially endorsed the scheme. It is purely an expression of individual opinion. That opinion may be just and right. I think it is; I hope it is; for I believe that the farmers' products have been systematically depressed in value for many years past by rings of speculators in Chicago and the other trade centers. But I realize that when a few men

undertake, without proper pre-concert and consultation, to affect the price of a great staple, like wheat, and do it, either directly or indirectly, in the Farmers' Alliance, they are entering upon a tremendous and dangerous experiment, which may not only, in its recoil, crush them; but injuriously effect the Alliance itself. I desire, therefore, to have it distinctly understood that the State Farmers' Alliance of Minnesota are in no wise responsible for this movement, or for any consequences that may flow from it. I hope the time is not far distant when the whole farming population of the United States shall be banded together for self protection and to resist the efforts of speculators to break down the real value of their productions; but to do this thorough consultation and wise action are necessary, together with the establishment of some bureau that will direct the sales, otherwise some farmers would get out at extravagant prices and others would be caught in the collapse of the boom. I see Mr. Pillsbury, the great miller of Minneapolis, declares that wheat will touch \$2 a bushel within the next 12 months. I understand that the English syndicate owning the Minneapolis mills, now hold 15,000,000 bushels of wheat. If the price of wheat goes up 20 cents, under the holding back of the new crop, those gentlemen would realize \$3,000,000 and get out.

In the meantime the farmers, who are hoping for \$2 a bushel, would be caught in the slump, and might have to sell in the spring at ruinous rates. And then every farmer in the state would turn upon and denounce the Farmer's Alliance, and our great organization would be destroyed. And then the cry would go forth, "Why did not our president warn us of these lawyers? He must have sold out to the syndicate!"

Therefore I say to you, use your own judgment when you will sell. Study all the facts submitted to you from every quarter. My own judgment is that wheat must rise. But I know too much of the history of the wheat market in the past to prophesy as to the future, or advise any man regarding so grave and complicated a problem, into which enter influences which no one can foresee. Where farmers can avoid rushing their wheat into market, they should do so by all means; but let them keep their eyes open, and do not become the tools of bulls or bears either. In any event understand clearly that the Alliance gives you no advice, and is not responsible for the mutations of the future.

For the present the interests of the millers are identical with the interests of the farmers, in the great, secret and world-embracing battle which is now raging; and we should do what we can to help them in their efforts to advance the price of our great cereal. But this is a world of selfish interests and we must watch over our allies. The Great West showed more than a year ago, that there was a difference in the price of wheat, in Duluth and London, of 20 cents a bushel, after deducting every charge that could be made for its transportation and handling. This represented, on the total crop of Minnesota of forty million bushels, an annual loss to the farmers of nine million bushels or \$8,000,000 or \$9,000,000. And this meant that sum annually subtracted from the business of the state; and a proportionate decrease of the prosperity of every business man in the state; so that this robbery effects our entire population. It becomes us therefore to do all we can to see that the producers receive a just price for the crop now about to be harvested.

Very respectfully,

IGNATIUS DONNELLY,
President of the State Farmers' Alliance.

Col. G. D. Rogers, editor of the *Market Record*, of Minneapolis, an authority on such matters, in a recent interview said he was not favorably impressed with the scheme, holding that in the long run the farmer would come out a loser. Besides, he did not think it was at all practicable. "The Alliance cannot do much when it comes to or-

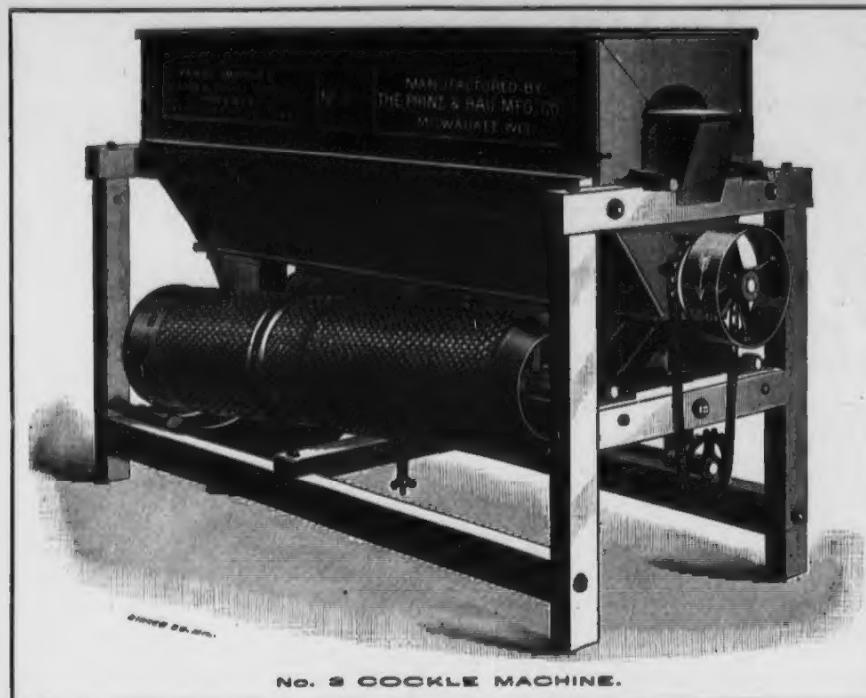
ganizing the farmers." "There are too many who are compelled to sell, and too few to advance them money that they may hold. They may be able to do something to equalize delivery, but it is a question whether wheat will be any higher by equalizing than it has been. The history of the trade for the years of which the farmers complain, will show that wheat was not enough higher the ensuing year to pay the charges for holding. The holding of the crop would be an advantage to the railroad companies and to grain men, but as to its helping the farmer there is nothing in it. There would be if there was not money enough to pay for the wheat, but as money is always abundant the farmer gains nothing by holding, taking a series of years. He might by accident sell one year for a higher price, but many others would lose."

FUNCTIONS OF DIRECTORS.

BY MATTHEW MARSHALL.

JUDGING by what I see and hear, the idea is quite prevalent that because directors of a corporation are called directors their duty is to oversee the corporation's business and to keep themselves informed of all its details. It is very much like the notion which children and simple minded people entertain of Queen Victoria. They fancy that she sits all day long upon her throne in her royal robes, with a crown upon her head and a sceptre in her hand, as she is represented in pictures, hearing embassies and petitions, and giving orders for the government of her kingdom, whereas, the fact is that she occupies her throne scarcely once a year, and her government is carried on by her ministers of state, who consult her upon comparatively few of the measures taken in her name. Many boards of directors meet only once in three months, and have as little to do with their company's business as the Congress of the United States has to do with its executive affairs, and to expect more of them is as absurd as it would be to expect it of Queen Victoria.

It is a pertinent question, and I fancy that it has by this time risen spontaneously in the minds of the readers: Why, if the functions of directors extend no further than to the selection of a president and the appointment of an executive committee, are so much pains taken to choose as directors of institutions men well known to the public, and to parade their names in circulars and advertisements? My answer is that in nine cases out of ten it is for the purposes of humbug, pure and simple, and it is done by the promoters of companies in the beginning of their careers to inspire confidence and to attract business, and it is kept up to gratify the vanity and love of notoriety of men who like to see their names in print.—*N. Y. Shipping and Commercial List.*



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WAS CHOSEN.

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THE BRADFORD MILL CO., Cincinnati Ohio:

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veyor as per enclosed sketch. * * *

Respectfully,

FRANK H. NEAR.

THE BRADFORD MILL CO., Cincinnati, Ohio:

Gentlemen—Yours of yesterday received, and I wired you this morning "yes," as per your instructions. The sketch is all right. Make the Conveyor
good and strong.

I told Mr. Near that he need not have cloth sent with the Dunlap Bolt, as I have the one here that was used in the test. I will use same numbers on
the new machine.

JAS. F. CLARK.

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any other wheel
in the world.

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PRACTICAL LOW-COST HOUSES.
HOW TO BUILD THEM.



A Large Atlas, containing drawings and floor plans of 40 Modern Houses with Correct Estimates of cost of building. All kinds of buildings ranging from a \$400 cottage to \$10,000 residence. The latest, most complete, and only practical book published. It is false economy to attempt to build without these plans. Price \$1.00, post-paid, 60 cts. Stamps taken.

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For further particulars apply to the nearest coupon ticket agent, or address GEO. H. HEAFFORD, Gen'l Pass. Agent, Chicago, Ill.

P. S.—It will do your heart good to see the magnificent crops in South Dakota. They are simply immense.

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MILWAUKEE, AUGUST, 1891.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER AND THE MILLING ENGINEER. You will thereby oblige not only this paper, but the advertisers.

THERE were 8794 applications awaiting action at the Patent Office at the close of last month. Most of these have been filed since the first of March.

ACCORDING to the recent report of the Collector of the port of Baltimore there has been a decrease from last year in the exports of corn, wheat and flour of the value of almost \$12,000,000.

FUNK and Wagnall's "Standard Dictionary of the English Language" will be issued shortly. Over one hundred of the ablest scholars are acting as editors of the various departments and it is the aim of the publishers to make the work more complete than any English dictionary now in existence, including all modern words. We have an earnest desire to see the complete work.

DURING the latter part of July a Chicago broker went "gunning" on 'change in Chicago for another one of the same ilk. Each party claimed that the other owed him money. This appears to be a new method of arbitration in Chicago. Had it been in some parts of "the wild and woolly West" the occurrence would have been more in order with the customs of the country.

WE had a very pleasant call during the early part of the month by W. B. Sheardown, the Eastern representative of the Duluth Imperial Mill Co. Mr. Sheardown was for many years General Passenger Agent of the Milwaukee and Northern R. R., but when that consolidated with the C. M. & St. P. R'y he, like many other good men, lost his position. We congratulate the Duluth Co. in securing the services of such an able and affable gentleman.

IT looks a trifle "off color" to see secretaries of Millers' State Associations acting as regular correspondents of any one milling paper, yet such is the fact and our north-western contemporary unblushingly "gives them away." We would suggest to the various state associations that they pay their secretaries reasonable salaries and instruct them to send to all the milling journals such communications as they would desire to see printed and to abstain from acting as special correspondents for any paper.

THE total loss by fire in the United States for the first seven months of 1891 is placed at about \$80,000,000 as against \$62,500,000 for 1890 and \$75,000,000 for 1889. The July losses for 1891 are placed at about \$9,600,000. The *N. Y. Commercial Bulletin* in commenting on these heavy fire losses, says:

"The fiery features of July were the lumber blazes at Michigan and the ill

fate of risks partially equipped with automatic sprinklers. Losses on lumber have been both frequent and costly, and the fire underwriters are anxious to know just what cause is responsible for them. The effect of the heavy losses of the first half year is now being felt by stockholders in several of the small fire insurance companies, which have declared July dividends at lower percentages than heretofore."

S. HOWES, ESQ., the veteran manufacturer of grain cleaning machinery at Silver Creek, N. Y., is just out with his new catalogue. It is elegantly printed. It has many illustrations, among which is a view of the Eureka Works in 1859. This is followed by exterior and interior views of his present large manufacturing plant which is building grain cleaning machinery that is sent to all parts of the civilized world. Mr. Howes has among his employes men who have been working for him for as long as twenty-five years. Any miller desiring a copy of the catalogue above referred to can obtain one free by addressing S. Howes, Silver Creek, N. Y.

A CABLEGRAM from London, dated July 21, reads as follows:

"The new American steel steamer Charles W. Wetmore, Capt. Saunders, which sailed from West Superior, Wis., during the latter part of June, arrived at Liverpool today. The Wetmore is an inland built steamer, and her cargo, which consists of 95,000 bushels of grain, is the first grain cargo shipped from a lake port direct to Liverpool without being rehandled. Her route was down the lakes from Duluth, through the Welland canal and thence down the St. Lawrence river and across the Atlantic. The success of the voyage is evidence that the proposition to establish direct communications between European and other ports and the port at the head of Lake Superior is entirely feasible."

Is it possible that the whale-back steamers and barges will revolutionize the grain carrying trade on the water?

THE Secretary of the U. S. Treasury in his report for June, says:

"Our foreign commerce of the last fiscal year, when compared with that of 1890, presents a large and gratifying increase. This will be better appreciated when it is stated that the total value of the commerce of the fiscal year 1890 was the largest in the history of the Government, and exceeded the total value of the commerce of 1889 by \$159,606,066."

The total value of our imports and exports of merchandise during the last fiscal year attained its highest point, amounting to \$1,729,330,896 as against \$1,647,139,093 during the fiscal year 1890, an increase of \$82,191,803, and an increase of \$241,797,869 since 1889.

The value of our imports of merchandise, also, during the last fiscal year was the greatest in the history of our commerce, amounting to \$844,905,491 as against \$789,310,409 during the fiscal year 1890, an increase of \$55,595,082.

The excess in value of exports over imports of merchandise during the last fiscal year was \$39,519,914."

IT has been estimated that Europe will be 400,000,000 bushels short in wheat and that it will expect 200,000,000 bushels of the deficiency from the United States. The estimate of the wheat crop of the United States is placed at 540,000,000 bushels which with 20,000,000 bushels carried over from last year would give us a total of 560,000,000 bushels. For home consumption and seed for next year about 360,000,000 bushels will be wanted, leaving us the 200,000,000 bushels for

export to Europe which is probably a very high estimate of their requirements. If we demand too high prices to start with Europe will import very sparingly so long as the home grown wheat may last. By that time American stocks will accumulate and down the price will go, giving foreign dealers a chance to load up at low prices. Of course we want to get every dollar we can for our wheat, but if we are too greedy at the start, we will simply overreach ourselves. This is the situation "in a nut-shell."

CONCERNING what is technically called "Available" wheat the *Cincinnati Price Current* says:

It is not the quantity of wheat counted as in store and "available" that has any special significance. The main factors in the great breadstuffs game are the quantities produced and the export clearance. If the United States has 200,000,000 bushels of wheat available for exportation during the year, of what particular importance is it as to whether the proportion "in store" advances this week, decreases next, and enlarges again the following week, due to the varying convenience of farmers in marketing, and to the caprice or interests of millers in reducing or enlarging their holdings for flouring purposes? The farmer who holds wheat and the warehouseman who holds wheat are alike speculators if they own the grain—and they are agents for speculators if they don't own it, but hold it.

THE reciprocity treaty between the United States and Spain is now an accomplished fact. It was brought about by the brilliant diplomacy of Secretary of State James G. Blaine and Hon. John W. Foster, special envoy of this Government. It will prove of immense value to the United States. Under its provisions in consideration of the admission free of duty of Cuban and Porto Rico sugar, molasses, coffee and hides into the United States, Spain admits all our pork and beef products, except jerked beef, free of duty. Lumber in every form, whether manufactured or otherwise, without paint or varnish, ice and mineral waters, and canned fish of every description, petroleum, manufactures of iron and steel, cotton seed oil, and certain grades of boots and shoes. The duty on flour is to be largely reduced on and after the 1st of January, 1892. It will be one dollar on every 100 kilogrammes, or a fraction less than one-half cent per pound. Heretofore it has been as high as two and one-half cents. This is an immense reduction, considering that the Spanish farmers and millers declared that American flour at such a moderate duty would drive Spanish flour out of the Cuban and Porto Rico markets.

THE *Northwestern Miller* since Mr. Edgar's return from Europe has evidently been badly afflicted with a severe attack of wind on its little stomach—a sort of bilious colic as it were. In its spleenetic mood it can hardly find words enough to condemn the Millers' National Association and its Secretary, Mr. Barry, in particular. To his morbid fancy it imagines "every bush an enemy" of his pet scheme to establish something which is already substantially established—that is, a new millers' national association and a millers' league. The first is in good running order and is doing all things necessary to be done; the second, the Millers' Tracing Bureau is already in operation and has accomplished success-

fully more practical work (tracing of flour shipments) during the past thirty days than the most sanguine could have expected and several of its subscribers are prominent millers in Minnesota and Dakota, a district which the *Northwestern Miller* has been supposed by some, to dominate, but which it don't by long odds. The *animus* of our contemporary against the Millers' National Association and its officers and the Millers' Tracing Bureau as expressed in its article and its caricatures is so plain that "he that runs, may read."

Mr. Edgar, the emotional editor of our Minneapolis contemporary attributes the authorship of an article published in the July number of the UNITED STATES MILLER to Mr. Barry, secretary of the Millers' National Association. Mr. Edgar has the reputation of being bright about some things but he is a poor guesser.

THE Wisconsin State Fair will be held in Milwaukee Sept. 14-19. It will doubtless be the most important one yet held in the state and it is expected that the attendance will be very large. The departments of agriculture, horticulture, stock, manufactures, etc., will be fully represented. Railroads will provide transportation at reduced rates and every person in Wisconsin who can possibly do so should take this occasion to visit its metropolis. There are thousands of people within the boundaries of the state who have no idea of the progress Milwaukee has made during the past few years.

FOREIGN NOTES.

THE Russian wheat crop is reported 25 per cent. and the rye crop 60 per cent. short of an average yield. If these estimates are correct the outlook for American farmers and millers is good indeed.

THE reduction of the French import tax which took effect July 1, will continue until June 1, 1892. The requirements of wheat by France during that time will be about 80,000,000 bushels, a large portion of which will be drawn from the United States.

THE Vienna correspondent of the *Daily Chronicle*, telegraphing recently, says:—Intelligence that has reached here from Russia states that everything that has been hitherto published respecting the famine and distress existing in that Empire is far behind the reality. In no fewer than seventeen governments, comprising upwards of a half of European Russia, the harvest is quite ruined, and the Government will have to provide the people with corn for food and seed purposes. A large number of villages are reported to have been entirely deserted, the peasants having migrated to the towns in the hope of getting work. All accounts agree in stating that an enormous amount of money will have to be expended by the Government if it is to mitigate the daily increasing distress, while it is added that Russia is going through a severe financial and economic crisis.

THE Superlative Purifier Mfg. Co., of Milwaukee, Wis., have recently shipped New Era Scalers to Du Quoin Mill Co., Du Quoin, Ill.; J. B. Stewart, Rushville, Ill.; Essmueller & Barry, St. Louis, Mo.; Mayflower Mills, Ft. Wayne, Ind.; P. S. Masters, Chillicothe, Ill.; S. F. McDonald, Oxford Mills, Ia.; Fulton Milling Co., Fulton, Kas.

CORRESPONDENCE.

[The following letters are all from our own special correspondents, and reflect their views and the views of the trade in the location from which they write.]

OUR BUFFALO LETTER.

LAST month I referred to the political preferences of President A. R. James, of the Millers' National Association, not knowing that an earthquake was about to shake the "Cleveland Democracy," the stronghold of that party in this city. All was apparently peace and quietness when the happy combination of "Grove" and "Lon" struck me as the best good old Yankee stock to represent this great and glorious nation on the Democratic ticket in the next campaign. The greatest Democrat since Jefferson and the chosen head miller of the United States!

President James is a business man, and beyond doubt the most convincing, persuasive talker to be found in this state. Plain matter-of-fact business argument, to the point, is what nine-tenths of this world will listen to and remember when they cast their vote. On the occasion of the "ruction" in the ranks of the Buffalo Democracy referred to, Mr. James took the stand as one of the principal opposers of the "gag rules" passed by "Billy" Sheehan, who is Governor Hill's henchman in this State and one of the most unscrupulous politicians in it. Mr. James' speech was unfortunately not taken *verbatim*, but among the salient points was the following choice bit of rhetoric: "Long have we borne the yoke and answered to the swish of the goad; too long, my fellow Democrats. The time has come to use the weapons of defense handed down to us from the forefathers of this country against usurpers of the rights and privileges of its citizens. I stand for caucus representatives elected by the people and not by a clique of "heelers." All men are born equal and I care not what belief, faction or nationality, a Democrat may espouse; I simply declare for an honest vote of the people at primaries. The root of all evil as far as Buffalo is concerned, is contained in the last sentence." This speech coming from the source it did, created the greatest enthusiasm, and Mr. James' name has been in the mouth of every honest citizen since.

To show what an interest is being taken in politics by our grain and flour men, the fact is worth mentioning that Mr. George Sandrock, President of the German-American Bank, and one of the best-known and highest-esteemed members of the Merchants' Exchange and citizens of Buffalo, was made temporary chairman of a meeting "packed" by the crowd which Mr. James so vigorously denounced the night previous. But Sandrock is a Democrat and for harmony, although, it is thought, his interests are with the "Sheeites."

The big break in the canal aqueduct near Schenectady has damaged the season's business on this great waterway almost irreparably. It is most unfortunate that politicians are put in places along the canal to guard against these breaks, who have never been in more responsible positions than making out pay rolls for the girls in a shirt and collar factory.

Mr. George Urban, Jr., and Mr. John Smith, of the Schoellkopf & Mathews' mills, are in Europe, having sailed the latter part of last month. Of all the members of the Exchange who have visited the other side and returned with

the solemn intention of "going back next year," he is the first to stick to such a declaration. No better team than Messrs. Urban and Smith could be picked to "do" Europe from the milling fraternity in this city. It is safe to say that they will come home wiser respecting our trade relations with the old world and everything connected with millers and milling than the whole crowd who composed the recent excursion put together. The reasons are obvious.

The greatest wheat crop ever harvested both as to quality and quantity, is now coming forward in such proportions as will fairly fill our elevators to overflowing. There is no doubt about this. In my thirty-five years' experience in the grain trade, I have never seen such beautiful wheat. No. 1 Longberry red, which is far superior to the standard sample, and such a run of No. 2 red. The number of cars under this grade is not worth mentioning. Besides this there never was a year when old wheat would not sell at a big premium over the new except this. No. 1 Longberry sold at 96@97c, and No. 2 red at 93@94c during the past two weeks. Sellers found no difficulty in getting these prices from city millers and the country trade seemed especially eager for a supply.

The receipts of grain at this port by lake for the season to Aug. 13th were:

	1891.	1890.
Wheat.....	28,707,768	15,065,351
Corn.....	18,830,547	31,119,910
Oats.....	6,028,495	10,434,885
Rye.....	225,001	1,075,875
Flour.....	2,509,045	2,218,887

The showing for this year is a poor one, lacking as it does fully 14,000,000 of last year's receipts. The prospects, however, are most flattering in all other cereals except corn, during the next four months, and there is no doubt Buffalo's record of 6,214,980 barrels of flour and 92,058,692 bushels of grain made last year will be far outstripped before the close of navigation.

The shipments by canal show a woeful falling off, being 10,000,000 short of last year. The figures are:

	1891.	1890.
Wheat.....	11,988,784	7,400,562
Corn.....	1,990,591	14,268,546
Oats.....	74,980	2,233,500
Rye.....	98,000	537,684

The railroads on the contrary have carried seven million more than last year from the opening of canal navigation to Aug. 13th. The shipments were:

	1891.	1890.
Wheat.....	10,027,429	2,441,878
Corn.....	9,766,555	9,095,875
Oats.....	3,819,235	5,401,300
Rye.....	117,790	146,418

At present the railroads are about 10,000,000 bushels ahead of the canal, but the outlook is decidedly favorable for the water route taking the bulk of the grain for the rest of the season, as cars are reported getting decidedly scarce, and the rush to get wheat to the seaboard as soon as possible nearly over.

Mr. M. L. Crittenden, now of Milwaukee, sent a handsome picture of himself, as a present to the Merchants' Exchange. Nothing could be more acceptable to the trustees, as Mr. Crittenden enjoyed the confidence and respect of every member of the Board. The picture will be hung in the secretary's room, and the eye of the old manager will now be on the new, ever prompting him to do his duty, in the performance of which he himself took so much pride.

The receipts of flour have been light during the past few days and with only fair receipts of other freight the warehouses are well cleaned up. I under-

stand the roads are contemplating large improvements for the better handling of this class of freight, and that next year will see the old Tift elevator torn down and a big warehouse erected.

The Duluth Imperial Mill Company's house will hardly be finished this fall although every effort will be made to do so.

Messrs. Harvey & Henry are interested in a marl bed in this state, from which great things are expected. A hugh portion of what is declared to be the knee joint of the extinct American elephant, is on exhibition at their office, labled "Too large to go into the ark and was left out in the wet." The "tall millers of Buffalo" were always lucky and the present investment will be no exception to the rule.

The Chester mill at Lockport is being refitted with some new machinery after being idle for a few months. It will probably take six weeks to put things in running order. The work is being done under the supervision of Geo. T. Chester.

The wheat crop in this State is one of the best on record and country mills are being supplied with fairly liberal receipts from wagons. Mr. George Thompson, of the Thompson Milling Company, Lockport, says he is now paying 92 to 95 cents delivered. Several choice lots of Duluth wheat have been purchased in this market of late for the same Company.

"Could anything be more ridiculous," remarked a prominent miller last week, "than the attempts of the manager of the *Northwestern Miller* to belittle the business standing and ability of the officers of the Millers' National Association? Singular that this man should wish to collar and drag the millers of this country into his way of thinking. Upon what meat does this Tzar of the Northwest feed that he has become possessed of the brains of the whole country. Is it necessary that he should berate us through his most valuable paper in the manner he does? If he has a new idea (which I question), why not carry it out and the millers will give him the necessary aid. I am not touched by his foolish procedure as I have never taken an active interest in the Association, but I detest such churlish methods in attempting to make a point. There is altogether too much of the "slangwhanger" style of writing of late about the *Northwestern Miller*, and I for one wish an equally good weekly could be started somewhere else."

It is simply wonderful to see the change in Secretary Thurstone after his long vacation. After twenty-eight years of steady hard labor with statistics and the numerous duties of a secretary, he was given about two months to enjoy himself and comes home as chipper as a boy. Why he does not look older than he did when he took the office, and I remember his appearance on that day as if it were yesterday. Mr. Thurstone was a "newspaper man" then and for years after was commercial editor of the *Courier*. Assistant Secretary Daly is still at Mt. Clemens suffering from the old rheumatism.

Richards, of hopper scale fame, was in town lately, but the scheme lacks push and I fear will fall flat for want of the necessary support. The railroads will be compelled to do this work themselves, as it is for their benefit far more than the receivers. Car-service charges owing to competition is almost a thing of the past, and the sooner the railroads put up elevators to take care of this

business at a reasonable charge the better it will be for all concerned.

The demand for flour has been fairly active during the past week having steadily improved since the new wheat commenced to arrive. The undesirable accumulation has all been disposed of in one way and another so that millers are now able to begin with a clean balance sheet on the new deal. Even the "Akron Falls" mills at Akron, N. Y., are going it again, according to "Clint" Newman, and when you hear him admitting such a thing you can bet the trade is lively. The Newman mills at Akron are always grinding feed, or flour is selling below cost of production when "Clint" is around. But the majority of his listeners pay little attention to his "poor-mouth" talk as they have heard the same thing for twenty-five years or more. However, flour is on the move and prices are satisfactory, which is one bright spot in the past two months' record of nearly all our mills.

Prices are far from steady except possibly in the case of the best spring patents, which are selling at 5.30@5.40 in lots with some "unknown" at 5.10@5.20. Winter wheat, old, is held at 5.00 and new from 4.60@4.75. Rye flour is going lower, although the price of that cereal has been advanced in this market from 74 to 78½ cents. Old rye is not offered at less than 5.00 and new at 4.70 to 4.80.

Bran has steadily declined in price and the demand is limited. Coarse winter sold this week at 14.75, and spring at 14.00 to 14.25; sacks 50 cents higher. Fine white feed is firm at 23.50 to 23.75 per ton.

Hay is firm here at 17.00 for loose and 14.00 for baled, old; new, 12.00@14.00. The prospects are for an advance of fully \$2.00 per ton as the oat harvest begins this week and the receipts will be very light.

The Urban mill is all under roof again and the place being put in order for the reception of new machinery.

The Attica mills are running night and day, turning out their full quota of what the people in that part of the State claim is the best all around flour ever made. C. J. Bork is pushing his best brands with all the vigor contained in the Bork family—and there is no more enterprising in the country. If Charles did not succeed he would be no son of his father Joseph.

Some very peculiar shortages and overruns are reported on cargoes received from Toledo. A number of vessels overran from 250 to 900 bushels, while shortages ranged from 80 to 350 bushels. Toledo has always been a troublesome port. Just how the matter of shortage will be settled is not known at present, but as some of the cargoes have been reweighed, two or three times, it is evident law suits will be in order soon.

"Clint" Newman bought the first car of new wheat which arrived here. It graded No. 1 red and cost him 97 cents per bushel.

Work on the Niagara Falls tunnel is going steadily on, and there is more faith, although less newspaper talk in the enterprise than ever.

Duluth wheat has been decidedly weak of late and sellers are anxious to unload in spite of the fact that the offerings at no time have been large. The pressure to sell seems to come from above. Hard was held at 14½, No. 1 Northern, 11½ No. 2, 8 over Chicago December price, but these figures could

be shaded one cent without much difficulty.

Mr. James W. Whitney, of Rochester, attended the races here last week.

Mr. F. J. Sawyer is still in the old country.

Mr. Riley Pratt is doing some great rustling in the wheat market here. Pratt knew nothing about wheat when he came, but corn is scarce and wheat plenty.

Business is very quiet at Henry Allen & Co. (A. J. Wight). I learn from an outside source that the young man has compromised the trouble in the late firm of A. J. Wight & Co. That special partner, Coon, was a little too wide awake. The best notice of young Wight's name will be in the case of Schoellkopf & Mathews vs. A. P. Wight & Co. That famous case is sure to come off in September. Every member of the Exchange is anxious to have it settled, particularly as they are certain it will go against the Wights.

In addition to a large-sized score which the members of the Exchange have to settle with A. J. Wight, there is one of late to freshen and keep the old grudge alive. It is generally thought that he is responsible for the order issued by the Western Union which deprived the Board of its Chicago quotation. These were furnished by Demary, Heintz & Lyman, by means of a tube put in at considerable expense. This is claimed was objected to by Wight, and while he was in Chicago the order to discontinue the dispatches was received. Mr. Wight has been furnishing certain papers with these markets and did not expect the free advertising he was getting for this service would be cut off, but it was. The Exchange is getting just as good quotation as ever, the Western Union on the floor gets no business, and the few members of the Board who were inclined to trade with Wight have gone over to Demary, Heintz & Lyman. This is the story told on 'Change.

Several of the elevators, which have not elevated a bushel of wheat this season, have been ordered opened by the 15th inst.

BUFFALO.

BUFFALO, August 15, 1891.

OUR ST. LOUIS LETTER.

Excited Market—Grain Inspection Matters—Foreign Consignments—Local Production, etc.

JUST at present, and today especially, the wheat market is occupying the attention of both grain and flour men. Never before has the market caused so much excitement as today, and the losses and gains were never so quickly made. It seems to have been a good thing in many respects that today the exchange closed at 12 o'clock. This is the first Saturday that the lately passed rule came into effect and its enforcement certainly proved very fortunate to many of the speculators. Such fluctuations as the market experienced today have not been seen in a long while and coming so unexpectedly they had a most disastrous effect on many holders of wheat. One firm, John Tyson & Co., were even forced to suspend and it is remarkable that not more were forced to do so. It is safe to say, however, that some firms are not as substantial, financially, as they were before the "break" in the market. As to prices I will quote them in my wheat report.

It is still a matter of wonder how the state can allow grain inspectors to be appointed whose only recommendation

is that they belong to the "granger party." Their knowledge of grain inspection is not questioned; its total absence is universally recognized, yet they are allowed to impose upon the flour and grain men to the advantage of the farmer and to the disadvantage of St. Louis and her interests. It seems almost too trite a subject to discuss again save that it but exposes the danger threatened not only to the St. Louis buyer but likewise to St. Louis, as a business center. With the large export trade St. Louis has built up in the last ten years with France it is of the utmost importance that no occasion be given of allowing this trade to drift away from the St. Louis shipper's hands to those of other cities. For this reason it has been the custom to be very careful in all shipments, both of grain and flour, to have the goods consigned, right up to par in every way.

When the state decided to legislate on grain inspectors and appointed its own inspectors, and after the ability of these inspectors was tested and found wanting, St. Louis shippers recognized the great harm which might befall their foreign trade through the poor grain inspection and for self protection hired their own private inspectors. The wisdom of this policy was demonstrated this last month while a big foreign shipment was being made up. While loading a barge at one of the elevators a bin of wheat was opened which had been inspected as No. 2 by the O'Shea State inspectors. The private inspector marked it No. 3 and refused to let it be loaded on the barge. Later the binfull was sent to the East Side and there was inspected No. 3. Had it not been that a private inspector was on hand the poor lot of wheat would have been loaded onto the barge and sent to France, a country that can only use our No. 2 Red. Such a small mistake as that, of course Mr. O'Shea must overlook, but St. Louis shippers cannot and so the system of double inspection continues. Later I learn that another lot of grain for foreign consignment graded No. 2, was regraded No. 3 on the East Side.

Speaking of foreign consignments, I see that the Sparks Milling Co. are about to press a suit against the railroads for failure to fill their contract. The milling company made a contract with the railroad for the transportation and shipment of a lot of flour from St. Louis to Great Britain. When the flour reached the seaboard, however, it appeared that the ship in which it was to be carried, had room only for a portion, so the rest was held over for the next sailing. This delayed the flour so much that when it reached the other side the consignees refused to accept it, prices not warranting their doing so. The Sparks people hold the railroad responsible and intend to fight them for the loss.

Arrangements have been made for better shipping facilities from Galveston, due to easier quarantine laws, vessels will not be detained as long as formerly.

At a meeting of the Board of Directors Mr. C. N. Osgood was appointed to represent the exchange in the approaching National Transportation Association's meeting. Mr. Osgood is the Traffic Commissioner of the Exchange and is selected to fill Mr. Craft's place, while the latter is absent.

WHEAT.

Receipts foot up 1,289,815 bushels for the present week and 1,298,434 for last week. Shipments continue very large

and show 807,459 for this week and 633,313 bushels for last week. For export via. New Orleans 607,881 bushels were withdrawn from the elevators, while 324,484 bushels were shipped east and 47,390 bushels were used for home consumption. The No. 2 Red market was excellent all week, exporters buying up the whole market; No. 3 Red was also well in demand for shipment and home buyers found it hard to get any; No. 4 had a fair local market. Up to today prices were fairly quiet and while a stiff advance was in progress the pace was not too fast for all to keep up to it, today, however, the market "broke" completely and shot up from yesterday's closing quotation of 93 $\frac{1}{2}$ cts. to \$1.03; No. 3 Red and No. 4 were also equal to the emergency and from 88 $\frac{1}{2}$ cts. and 82 cts. respectively, rose to 95 cts. and 91 cts. Quotations for the week are:

	No. 2 Red	No. 3 Red	No. 4
Monday.....	.86	.81 $\frac{1}{2}$.78
Tuesday.....	.87 $\frac{1}{2}$.83 $\frac{1}{2}$.79 $\frac{1}{2}$
Wednesday.....	.92 $\frac{1}{2}$.88	
Thursday.....	.92 $\frac{1}{2}$.88	.81
Friday.....	.93 $\frac{1}{2}$.88 $\frac{1}{2}$.82
Saturday.....	1.03	.95	.91

FLOUR.

Receipts in flour amounted to 26,860 barrels, with 23,326 barrels for last week. Shipments were for this week 55,365 as against 65,394 barrels last week. Business is very poor and beyond a small Southern and local demand nothing is being done. A small export movement is reported, but nothing of importance. The output of the mills amounted to 82,600 barrels, a slight increase over the usual weekly output, aided somewhat by the starting up of the St. George mill which has been under repairs for sometime. Prices quoted at present are: Family, \$3.20 @ \$3.30; choice, \$3.40 @ \$3.60; fancy, \$3.75 @ \$3.85; extra fancy, \$4.10 @ \$4.20; patent, \$4.35 @ \$4.45.

WALTER HOWARD BAIN.
ST. LOUIS, Aug. 15, 1891.

OUR LONDON LETTER.

British Crop Conditions—Failures in the English Grain Trade—The Millers' Annual Convention—More Milling Syndicates Organized—News From Russia—The Successful Trip of the American "Whale-Back" Wetmore, etc.

FOR some weeks past wheat has been slowly losing in value what it had gained in March and April last, the immediate reason being the favorable weather for the crops. The rain during the past week with the very mild and close weather, after the brilliant heat during which the wheat flowered, is just what the growing cereals required. Reports from all parts of the United Kingdom state that there are very heavy crops of wheat this year, and even in the sandy Surrey, the farmers say the wheat crop promises to be a full average.

The wheat in many places is fast ripening and the golden hues of harvest becomes every day more apparent. It is therefore not surprising, that since April when the market price of wheat was at its highest point, the drop has been over six shillings per quarter, and the value now stands at the 40s. level for the best wheats. It is a noticeable fact that all the unfavorable crop reports published, and there have been plenty have had little or no effect on the market, and this may have been mainly on account of America having offered her new crop most freely. Thus American Red Winter is the cheapest wheat on the market when its quality and condition is taken into account. The uniformity in the quantity of

wheat and flour imported during the ten months of the cereal year ending June 30th last is remarkable. Thus in 1888-9 it amounted to 15,502,369 quarters; in 1889-90 to 15,492,610 quarters and in 1890-91 to 15,763,168 quarters. From private sources I hear that Russian wheat crop is much better than at first reported, and that Turkey and the old countries between the Levantine and Arabian seas have quite a bountiful stock for export. The fall in the Russian rouble encourages the export trade and there is little doubt that this fact will make the markets extremely weak. The suspension was announced on the 18th of July of Messrs. Edward Gripper & Sons, of Winchester Wharf, Bankside, London, one of the oldest established firms in the grain trade, and this following so soon on the failure of Messrs. Alexander & Co., the grain brokers of 40 Threadneedle Street, London, E. C., had the effect of making quite a flutter among the business men on 'Change. On July 7th, and three following days, the National Association of British and Irish Millers held their Convention at Northampton when Mr. Joseph Westley was elected President for the ensuing year. A paper was read by Mr. J. W. Lovibond on the Tintometer, and a very good discussion followed it on the question of the color of flour and the quantity and quality of gluten and its color effect. Three very good excursions were made and a banquet took place in the evening of the first day.

The Convention closed with a grand ball at which there were some two hundred ladies and gentlemen.

From the following half yearly report of the Sowerby Bridge Flour Society some idea can be obtained of what the condition of the milling trade in Great Britain has been for the first six months of this year. The Sowerby Bridge Flour Society sent out 148,599 packs of flour, and the sales of other goods brought up the total to 245,690 packs. The cash received for goods amounted to £180,043 9s. 1d., being an increase of £4528 over the previous half year. The gross profits, after allowing £1166 10s. 9d. for depreciation, amounted to £24,049 11s. 3d. It was proposed to pay a bonus of 1s. 8d. in the pound; to add £700 to the reserve fund—making the latter £7000, to add £300 to the insurance fund; and to carry the balance of £687 to next half year's account. This period was the most prosperous in the history of the Society, but the prosperity of English milling for the next six months will not be so marked, if it is shown at all, in the balance sheets which will be made at Christmas.

The syndicate which has bought up the 22 mills in the Midlands will, it is stated, launch their project into the market for the public to invest their money in shares, during the coming week. The capital required is £1,500,000, and it is to be hoped for the public's sake the company will not obtain the money it requires from "outside." Another amalgamation, this time between two milling and grain merchanting industries in Newport (Monmouthshire), at present working separately. The official announcement will shortly be made by the issue of the prospectus of the new company and the board is to consist of some of the best known names of Newport and neighborhood. It is thought that by the amalgamation the existing business will be greatly developed, and that it will be the means of bringing into Newport for distribu-

tion in the West and Southwest of Wales and that part of England adjoining, the largest cargoes of foreign grain.

General Baranoff, Governor of Nijni Novgorod, Russia, has, I hear, informed the committee of the Exchange that he will expel any merchants or others who resort to speculation and the formation of corners in grain in order to raise the price and profit by the growing necessities of the population. Several merchants, says the indignant Governor, have already done this shameful thing; and he threatens to publish their names to the contempt of their countrymen, as well as to use the full powers which he possesses to inflict a well-deserved punishment. In view of the reported impending famine speculation in grain is severely interdicted.

On Tuesday, July 21st, the "Wetmore" arrived in Liverpool from Lake Superior with 300 tons of grain and was docked in the East Waterloo dock. The "Wetmore," which is a "whaleback" ship, has a length over all of 265 feet, of which at least four-fifths is carrying capacity, her depth of hold is 24 feet and the beam 38 feet. As she steamed into the Mersey not more than nine feet was above the level of the water, and she carried a crew of twenty, all told. The portion which is above the water level is the hold which extends from the smoke stack to within 20 feet of the bow. In the latter place is merely a steel turret which covers the retreat of the crew to their sleeping quarters. In the stern of the vessel there are three turrets, one of which contains the smoke-stack, one rises above the engine room, and the third is the companion to the cabin and engine rooms. Above these turrets is an iron roof, which is inclosed on all sides, the space being used for the officers' quarters and the upper deck for quarter-deck purposes. The vessel has no keel, the bottom bulging downwards from the stem to the stern, no ballast is carried, and there are no watertight bulkheads. There is no cutwater, as is usual in steamers, but the vessel tapers from the center to the ends. If divided sectionally, the shape of the vessel is almost circular, with the exception, as has been intimated before, that the top is slightly compressed. As to the "Wetmore's" sea-going qualities, I am informed that rolling is reduced to a minimum. This is probably to be accounted for by the difficulty of any waves striking the beam by reason of the ship's low setting in the water. The main advantage commercially seems to be great carrying power, the gross tonnage being 1399.85 tons, and the net carrying power 1075, which means an actual capacity of 3000 tons. Another advantage claimed is that the top of the hold is unencumbered by any fixings, and there are nine steel hatches which are bolted down to the deck, all of which may be opened at once, and unloading or loading operations may be proceeded with from nine parts of the vessel at once. The speed is not great, but nine knots an hour may be considered as fairly satisfactory. The driving power is constituted in two steel boilers, and a compound condensing engine with two cylinders, 26 and 50 inches in diameter, with a stroke of three and a half feet, which are driven at a pressure of 125 pounds to the square inch. The "Wetmore" is licensed to ply on the Northwestern lakes and the Atlantic and Pacific, and is built of steel throughout. X. Y.

LONDON, August 7th, 1891.

AS OTHERS SEE THEM.

The Edward P. Allis Company.—A Great Manufacturing Plant.

THE correspondent of *The American Machinist*, probably the ablest general mechanical journal published in this country, recently visited the works of the Edw. P. Allis Company in Milwaukee and this is what he says in his paper: "Probably there are no more complete machine works working in a similar line in the country than those of the E. P. Allis Company, at Milwaukee. About fourteen years ago Mr. Edwin Reynolds became connected with this company, and as superintendent, and seconded by other members of the firm, he has built up an immense business. The Company is the largest builder of Corliss steam engines in the country, and I believe the largest builder of milling machinery as well. Some idea of the work done in building Corliss engines may be had from the fact that in the first 112 days of this year there were shipped from the works 97 engines, with an average diameter of cylinder of 27 inches. At this writing there are, I am informed, orders on their books aggregating more than one million dollars. A large proportion of work done is of a very heavy character. One engine I saw under construction was for the Chapin Mining Co., of Iron Mountain, Mich. It was a compound with cylinders 50" and 100", with a stroke of 10 feet; it is to raise water 1500 feet high. This engine has a fly wheel 40 feet in diameter, and weighing 150 tons. Work of this character requires good facilities for handling, and the yards of the company are served with a Baldwin locomotive, with cylinders 14 inches diameter, also with a traveling crane that can be seen almost any time moving along with a piece weighing from one to fifteen tons. Railroad tracks enter the principal buildings, where traveling cranes complete the outfit for handling heavy pieces.

In the way of large tools I noticed two planers, each of which will plane ten feet square, and eleven turning and boring-mills. There is also a pit lathe that will turn a wheel 40 feet diameter and 11 feet 4 inches face. The heavy tools have been run day and night for past ten years.

Corliss engines are literally manufactured. In all ordinary sizes a pattern goes into the foundry, not for one piece, but for, perhaps, fifty, and in the machine shop all the parts are worked up in quantities, and kept in stock ready to be given out for erecting, a complete system of gauges and jigs being employed for keeping the parts standard. Special tools are, of course, extensively used in making the parts, one draftsman being constantly employed in carrying out the ideas of foremen and others in the way of improved methods.

I noticed a cylinder-boring and facing machine by Nicholson & Waterman. To this additions were being made, which when accomplished, will enable a cylinder to be completed—planed, bored for piston and valve seats—at three settings. New machines have been added to the plant during the past year, at a cost of \$100,000.

In the drawing room thirty draftsmen are employed. This room is large and light, and everything connected with it is well systematized. Track is kept of drawings by the card system, which is very highly commended. Fire-proof construction, 16 feet square and

three stories high, provides for the safety of duplicate drawings, books, etc.

The foundry is 375x128 feet, served by two traveling cranes. Endless chains are employed for moving the trucks containing molds and large cores into and out of the ovens. In addition to this foundry, the company has another one, two-thirds as large, a few blocks away, as well as another plant for building milling machinery; the reason for this separation being that there is no room for building on the original ground of fourteen acres. Since Mr. Reynolds' connection with the works, the buildings on this ground have all been built anew, and then extended and other stories added, until the necessary yard room cannot be further encroached upon.

A good deal of high grade modern sawmill machinery is built in these shops. Amongst other machinery for this purpose are band-mills. For one of these mills, band-wheels ten feet in diameter are used. The upper wheel is comparatively light, while the lower wheel is heavy, to serve as a balance wheel. This wheel—the lower one—is made with a double set of arms, eight in a set, and these arms are staggered and cross each other. That is, the arms that spring from one end of the hub take hold of the opposite edge of the rim. These wheels have a surface velocity of 10,000 feet per minute, and hence precaution must be taken against strains in the casting. This is done, in part, by separating the hub in casting, into two distinct parts—not splitting it longitudinally, as is sometimes done in the instance of heavy wheels, but dividing it at the center at right angles to the bore into two distinct hubs; the arms, as will be understood, from one edge of the rim taking hold of the opposite half of the hub. In cooling, the arms are free to draw the two parts of the hub closer together, or to separate them further. Then the hub is built around in the foundry, and a distance-piece cast between the two parts, the whole being eventually held firmly together by eight bolts passing longitudinally through the hub and distance-piece. The journals of the shaft that carries this wheel are ground true after the wheel is keyed to the shaft. I believe that this construction of a wheel is patented.

An amusing story is told by Mr. Reynolds regarding one of these wheels. The parties who were using it melted the babbitt out of the boxes, and in rebabbing, by heat or in some other way, sprung the shaft. Then they discovered the loose piece between the parts of the hub, and the utility of the longitudinal bolts, and immediately concluded that the wheel was a patched-up affair, and complained accordingly.

A good deal of open hearth steel from Carnegie, Phipps & Co., is used for such parts as connecting rods, piston rods, shafts, pins, etc. This steel is fairly easy to work, and when finished looks as fine as anything that can be seen. An immense crosshead—I should not be willing to hazard a guess as its weight—finished all over, was, I think, the finest piece of large finished work I ever saw. Then there were two finished shafts of this material, each 10 inches diameter and 40 feet in length, in one piece, that appeared to be about absolutely perfect. These were for the West End Railway Company, of Boston.

Large hoisting, winding and blowing engines are extensively built, as

well as pumping engines—particularly triple expansion. This firm was the first in this country—if not in the world—to erect a triple expansion pumping engine. This engine was a fore and aft compound, with a capacity of 6,000,000 gallons, 150 feet high, in 24 hours. The guaranteed duty was 115,000,000 foot-pounds for each 100 pounds of coal; steam pressure, 80 pounds. It was built for the City of Milwaukee.

I noticed the lagging of cylinders with wood has been abandoned, steel being used instead; not thin sheet steel, but steel of sufficient thickness to resist all probable efforts at indentation.

FOREIGN NOTES.

AN estimate of the prospective wheat crop of the world, based on official figures, is published in London, showing a probable shortage in supplies of 50,000,000 bush. The requirements of all importing countries are placed at 405,000,000 bush., and the surplus for exporting countries at 355,000,000 bush. The probable crops and requirements or surpluses of the principal countries are given as follows: Great Britain—Crop 64,000,000 bush., requires an import of 150,000,000 bush. France—Crop 240,000,000; needs 100,000,000. Italy must import 40,000,000. United States—Crop 511,000,000; surplus 154,000,000. India can possibly export 32,000,000 bush. of the 255,000,000 harvested this spring. Russia may be able to export 64,000,000 out of a probable crop of 185,000,000 bushels.

BRITISH bakers are earnestly protesting against the practice of washing dirty India wheat, which is quite common among English millers. They say the flour produced from washed wheat contains a considerable quantity of water, for which they have to pay four cents per pound. They demand that only clean wheats—such wheats as can be cleaned by cleaners without washing, be imported. In the meantime the jolly English miller goes right on washing his wheat and selling his combination of flour and water to the indignant baker, who in turn, in order to make a profit must add more water and turn out a very moist loaf of bread.

THE President of Peru has issued a decree admitting free from duty into that Republic the following articles: Live sheep and cattle, dried meats, salt beef, dried, smoked or pickled fish, wheat and corn, potatoes, and all other vegetables, eggs, cheese, chestnuts, peas, beans, rice, rape seed, herbs and spices, and has decreed an export duty of twenty soles silver per head on cattle exported, and two soles per head on sheep exported. This action as announced in the decree, is in consequence of the scarcity and consequent high price of food in Peru caused by the floods that have followed the heavy rains throughout the country, and by the enormous demands for all forms of food caused by the war in Chili. The export of provisions from Peru to the armies of the insurgents along the coast of Chili has so reduced the stock of flour and meats that speculators have taken advantage of the situation and advanced the price of beef to 40 cents per pound in the Lima and Callao markets, where flour and bread are held at similar prices.

ALL persons desiring to reach the entire milling and grain trade of America, by circular or otherwise, should obtain a copy of CAWKER'S AMERICAN FLOUR MILL AND GRAIN ELEVATOR DIRECTORY FOR 1890-91.

NEWS.—CAPT. J. C. FLYNN started up his new mill at Iowa Park, Tex., July 18. The mill was built for Capt. Flynn by the J. B. Alfree Co., of Indianapolis, under the immediate supervision of Mr. Owens, an employee of the Company. The owner is so well pleased with the work that he has ordered the capacity doubled. Mr. J. C. Loughry is the head miller. Bread was made from the first flour produced in forty minutes from the time of starting up.

A FLOUR mill is to be built at Whatcom, Wash.

A FLOUR mill is to be erected immediately at Mosco, Colo.

THE erection of a new flour mill at Griffin, Pa., has just commenced.

HENRY C. YAEGERS' SONS will soon start up their new mill at Waverly, Ill.

THE new flouring mill at Argus, Pa., will commence work early in August.

THE Union Flouring Mills at Oregon City, Ore., are adding a lot of new machinery.

THE Baker City, Ore., mill is exporting a considerable amount of flour to China and Japan.

THE Chatfield, O., Milling and Elevator Co., has been organized with a capital stock of \$20,000.

J. HIMMELBURGER's mill with contents at Morehouse, Mo., burned July 30. Loss reported at \$50,000.

THE Albany, N. Y., wholesale flour dealers have agreed to close up their places of business at noon on Saturdays.

E. P. ALLIS & Co., of Milwaukee, have sold a complete outfit for a 50 barrel mill to Stewart & Pitt, Primeville, Ore.

AT Brooklyn, Ill., July 15, the large flouring mill was struck by lightning and burned. Loss about \$15,000; insurance, \$5,000.

THE large flouring mill at Brooklyn, Ill., was recently struck by lightning and burned. Loss about \$15,000; insurance, \$15,000.

HORACE HITCHCOCK, miller and dealer in agricultural implements at Mayville, N. Y., has failed. Liabilities, \$10,000 to \$15,000.

ELEVATORS are being built at Calvert Station and Lower Canton, Baltimore, Md. Heavy arrivals of grain at Baltimore are expected.

TEN more whaleback steamers are to be built by the Messrs. McDougall at Duluth, in addition to the two now afloat, for ocean freighting.

THE flouring mill of G. A. Schoch, at New Berlin, Pa., is being repaired and fitted with machinery for the manufacture of roller process flour.

AN elevator at Fargo, N. Dak., owned by the Fargo Improvement Co., was destroyed by fire July 18. Loss on building and contents not yet reported.

AT Bolivar, Mo., Aug. 7, Blevin's saw and grist mill and gardening machine factory were burned. Loss on building and machinery, \$4,000; on wool, \$1,000; no insurance.

BURNED, July 21, the Swan Lake Milling Co.'s mill at Nicollet, Minn. Loss reported at about \$40,000. Well insured. The mill had a capacity of about 250 barrels per day.

IT is reported that Wm. H. Reitz contemplates moving his mill from Somerset to Baltimore, Md., on account of better facilities for obtaining wheat and selling the mill's products.

THE Michigan monthly crop report for July estimates a probable yield of wheat from this year's crop at 24,671,558 bushels. The area is 140,000 acres in excess of that harvested in 1890.

AT Carroll, Ohio, August 8, the flouring mill of A. P. Kistler was burned, with a loss of about \$25,000. The principal loss was on wheat, which had been stored. The fire is thought to have been incendiary.

THE Urban Milling Company, Buffalo, N. Y., has leased the Frontier mill at Black Rock of Schoellkopf & Mathews, and will run it till the Company's mill near the Chippewa market is in running order again.

DAVID BOWER, of New Bloomfield, Pa., has bought the interest of Parsons & Clouser in the flouring mill above town. The new firm, each member of it owning a half interest, is composed of Messrs. Bower and David Clark.

THE Rio Milling and Manufacturing Company, Charlottesville, Va., with a capacity of seventy-five barrels of flour per day, expect to have their mill in operation by the first of August. Mr. Edward Corbett, of Washington, D. C., is the contractor.

DUNCAN BROS.' flouring mill at Baker City was consumed by fire the morning of August 4th. It is supposed to be the work of an incendiary. Loss estimated at \$27,000, with insurance of \$17,000. This mill is one of the leading mills in Eastern Oregon.

THE Waynesboro, Pa., flouring mills are running up to full capacity. Mr. M. Kiv-

ighan is the general manager and C. R. Bragg is the head miller. The mill also has a 50,000 bushel elevator. Twenty hands are employed.

HERMAN ERB has sold Peter Heid's interest in the Heid & Mory elevators at Appleton, Hortonville and Van Dyne, to Charles Mory, of Appleton. Mr. Heid will probably not return from Europe, and the business will be conducted entirely by Mr. Mory.

AT Greenville, Tex., August 8, a fire occurred in the grain, hay and wool warehouses of Lowenstein & Hunnicut. The buildings were of iron sidings and roofs, but the interiors, with their contents, were entirely consumed. Loss, about \$8,000; insurance unknown.

THE Northwestern Consolidated Milling Co., of Minneapolis, is now announced to be fully organized, and business commenced under the new management July 4. The consolidation includes the following mills: Columbia, Northwestern, Galaxy, Zenith and Crown Roller.

THE Commercial Record, West Superior, Wis., says: The Freeman Mill Company are making good progress with their work, and the mill will be pushed to completion as rapidly as possible. The calls are being promptly met, and there will be no stoppage of the work owing to lack of means.

SCHAFFER, HUEBNER & Co. are building a four story stone flouring mill at Menomonie Falls, Wis., capacity 100 barrels daily, 75 barrels wheat and 25 barrels rye. The furnishings are from E. P. Allis & Co. It is expected to be in running order on Nov. 1st. The plant will cost about \$20,000.

JOHN GREEN, a veteran miller of three-score years and ten, has been running a farm, saw and grist mill at Townsberry, N. J., for the past half century. He has concluded to take a rest and has leased his property and started on a grand tour to visit friends and relations in different parts of the country.

THE Merchant Flouring Mills of A. C. Godshall & Bro., Lansdale, Pa., after two months of stoppage for repairs and alterations, resumed running on July 7, with a full complement of new and improved machinery. The work was done by E. P. Allis & Co., of Milwaukee, Wis. The capacity of the mills is now 250 barrels per day.

THE Latrobe, Va., Advance says that during the past year the milling firm of St. Clair & Ellis, who make the famous Par Value and Export flour, have had shipped there over 60,000 bushels of grain, exclusive of the large purchase from farmers. The business of the firm has been growing steadily and rapidly, and the demand for their favorite brands of flour is increasing daily.

THOMPSON's feed mill in Minneapolis was crushed during the night of Aug. 12 by the bursting out of the adjoining wall of the Star elevator under the enormous pressure of wheat. The loss to the mill is \$24,000 and that of the elevator company \$25,000. There were sixty thousand bushels of wheat let out. Thompson's building is fully insured. No one was hurt.

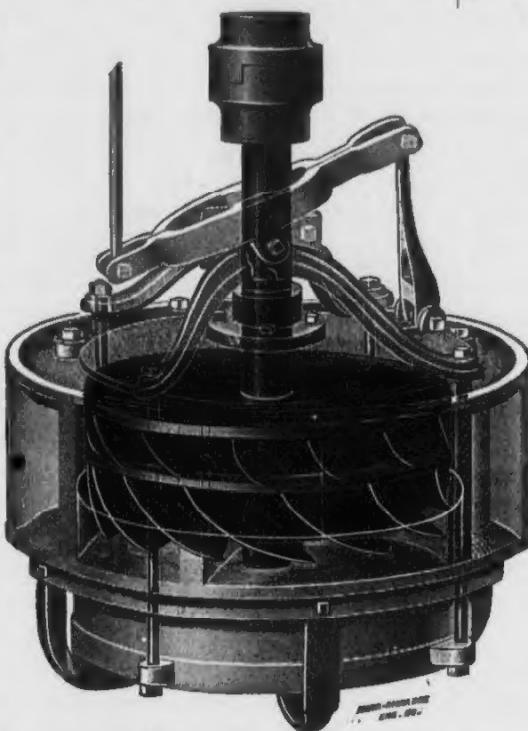
AT 4 o'clock A. M., July 15, an explosion took place in the Shawmut mills, conducted by Whitney & Wilson, Rochester, N. Y. Rober Fulcher, the night miller, discovered that one of the spouts was clogged. In setting the spout in operation, the lantern which Fulcher carried set fire to the cloud of flour dust and an explosion followed. Mr. Fulcher was painfully, but not seriously burned in the face and hands. He was removed to his home and attended by a physician. The damage to the mill was slight.

THE oldest grist mill in Carbon county, Pa., as far as known, is the one at Pleasant Corner, it having been built in about the year 1795, by one John Evert. It is of stone, and having been substantially constructed, it remains in its original shape and form, save as to the machinery, which has been renewed from time to time. Some thirty years ago it was owned by ex-Sheriff Jacob Holben, now deceased. It is still being operated, and is doing a good service for the people of the surrounding neighborhood.

THE following item has been sent to us from Chippewa Falls, Wis.: "Papers of purchase have been completed whereby two large flouring mills and an extensive water power on Duncan creek became the property of the Consolidated Milling, Elevator and Power Company. The Company consists of Mayor Leinenkugel, Judge Marshall, A. B. McDowell, President; Lumberman's National Bank, D. Chisholm and H. C. McRae. The latter will act as General Manager of the Company. Ground will be cleared immediately for the erection of a large grain elevator, and railroad facilities to the flouring mills and elevator establishments, if possible. Capital stock of the Company, \$75,000."

THE IMPROVED WALSH DOUBLE TURBINE WATER WHEEL.

In view of correcting a mistaken idea generally prevalent regarding the construction and operation of the tight fitting cylinder gate of the Improved Walsh Double Turbine, the manufacturers, B. H. & J. Sanford, Sheboygan Falls, Wis., submit the above cut and following explanation: The dark portion of this transparent cut shows the wheel proper, or runner, and the cylinder gate in its down, or open, position. The reader's attention is called to the fact that the gate *passes down to open* and is the reverse of all other cylinder gates. At half gate the cylinder passes down to the partition ring dividing the two sets of buckets, thus using the upper half of the wheel only, which virtually amounts to a single turbine



TRADE NOTES.

WM. WALSH, Pontiac, Mich., has been building a new flume and placing a 48-inch Improved Walsh Double Turbine, purchased of B. H. & J. Sanford, Sheboygan Falls, Wis.

WM. SAUER, Arcadia, Wis., visited the Phoenix Iron Works, Sheboygan Falls, Wis., recently and placed his order for a 15-inch Improved Walsh Double Turbine water wheel.

J. W. HOWARD, Gilmanton, Wis., has ordered a 26-inch Improved Walsh Double Turbine water wheel of B. H. & J. Sanford, Sheboygan Falls, and will add other new machinery.

WILSON DAVIS, Galesville, Wis., is improving the power of the electric light plant by putting in a 32-inch Improved Walsh Double Turbine Water Wheel purchased of the manufacturers, B. H. & J. Sanford, Sheboygan Falls, Wis.

ANDREW KERN, Plattville, Wis., is putting in a 20-inch Improved Walsh Double Turbine water wheel, manufactured by B. H. & J. Sanford, Sheboygan Falls, Wis., also other machinery and will soon be in operation.

JACOB ARIMOND, successor to Arimond & Bowser, Dundee, Fond du Lac Co., Wis., is improving the power of the mill, by displacing an old water wheel with a 32-inch Improved Walsh Double Turbine, manufactured by B. H. & J. Sanford, Sheboygan Falls, Wis.

J. R. SECHLER & SON, Sechlerville, Jackson Co., Wis., have tested the merits of the 48-inch Improved Walsh Double Turbine water wheel to their entire satisfaction and have ordered a second one, 32 inches in diameter, of the manufacturers, B. H. & J. Sanford, Sheboygan Falls, Wis.

THE Cockle Separator Mfg. Co., of this city, have orders for four cylinder Kurth Cockle separators from Minnesota Elevator, Chicago, and American Cereal Co., of Chicago, for their Cedar Rapids, Ia., mill. They have lately shipped a Kurth Cockle Separator to Day & Hoyle, Woodman, Wis.

MILWAUKEE has for some years taken front rank in the manufacture of fine grades of oils and greases. The trade in this line has been unusually heavy so far this summer. The Wadhams Oil and Grease Co. are making all grades of fine oils and lubricants, and their factory has been crowded to its utmost capacity the entire season. The sales of this company in Badger Lubricants, Mill Greases and Compression Grease Cups have exceeded those of any previous year. Quality in this line is in more demand than formerly and the outlook for the Cream City's trade is excellent.

THE Superlative Purifier Mfg. Co., Milwaukee, Wis., have orders for New Era Scalpers to be shipped to Nordyke & Marmon Co., Indianapolis, Ind., (6 machines); Minto Roller Mill & Elevator Co., Minto, N. D.; Chas. Rodgers, St. Clair, Minn.; Aug. Wolf & Co., Chambersburg, Pa.; Nordyke & Marmon Co., Indianapolis, Ind., (one three sieve machine); Northern Milling Co., Grand Forks, N. D.; Lake Park Roller Mills, Lake Park, Minn.; Williams & Groat, Portland, Ore., (2 machines); W. B. Woodward, Horr's P. O., O.; J. F. Gandolfo, Dubuque, Ia., (4 machines for Cosgrove Mill) and Essmueller & Barry, St. Louis, Mo.

THE CARE OF A BOILER.

BY D. RIVERS.

THE proper care of a boiler is one of the most important things about a steam plant, and yet less attention is commonly given to the boiler than any other part of the machinery. There may be several reasons for this and one which shows up the most frequently, is that the engine with its finished parts and brass oil cups and steady running gives a better chance for display than does the boiler. The engine room seems to be the important part of the establishment and the place that receives the most attention, while the boiler is generally located as far out of the way as possible and receives the smallest amount of attention that can reasonably be given it. This is not the case in all plants, but in the majority of them the boiler is neglected, so that more time and attention can be given to the engine and its surroundings and it is usually noticed that wherever there is a fine engine on which a show can be made, the boiler room will be found quite dirty, most of the apparatus required therein in an uncleanly condition, more so than should be necessary from the amount of dirt and dust usually made in such places. Where the engine receives the larger amount of the attention, the boiler must of necessity be neglected and usually is, to a considerable extent, and is nearly always the case where the engineer does his own firing. All engineers know that the boiler is the most important piece of machinery about the plant, or at least should receive the greater amount of attention. Owing to the duties required of boiler and engine and the means employed for working them, it is understood that there is a possibility of accidents occurring in a short space of time which may be the cause of the destruction of the whole apparatus. When an engine breaks down, the destruction is usually confined to the one room and is seldom disastrous, for such accidents rarely occur, while anything that may happen to the boiler, and the possibilities are many, may be the cause of a large amount of damage. We have no indicators for boilers that serve the purpose so fully as the steam engine indicator and the noises produced are practically indications of the condition of the engine, but in a boiler there is nothing which corresponds to this, for although braces may be loose or broken, rivet heads corroded and eaten off, boiler plates grooved or pitted, initial strains present from the too free use of the drift pin, necessitated by the low price at which the boiler was furnished, crystallized plates, produced partly from the same cause, may either one be capable of causing a terrible accident, which coming as it will, without warning, may make the results most terrible. All these defects have been found in boilers, in some cases before an accident has occurred, but in others only from an examination of the wreck produced and of the fragment left, but in most cases their presence is unknown until the boiler is in a decidedly dangerous condition.

In plants where a fireman is employed a much cleaner fire room is usually found and, occasionally, the fireman takes sufficient pride in his surroundings to keep the boiler front and other parts exposed to view reasonably clean, and some go so far as to keep all the fittings bright, the ceilings and walls whitewashed, pipes, dome,

etc., nicely painted a deep jet black and an air of tidiness all around. In such a place, it may be inferred from a casual view, that the machinery of all kinds has excellent care and that the inside of the boiler receives fully as much attention and as close examination as the outside parts which make the show, and this is as it should be.

Some engineers have claimed with a show of pride that they have not had their boilers open for over six weeks, two months or longer as the case may be, apparently considering that such things are complimentary to their ability as an engineer. In some cases it is all right no doubt, for any engineer that gives his boiler a careful examination and inspection every two or three months may be reasonably assured of its safe condition for that length of time, providing every thing was found as it should be when the last examination was made. The use of mechanical boiler cleaners tends to increase the length of time between which examination of the interior of the boiler is made, as some of these devices are capable of keeping a boiler free from scale for several months' time without special attention. But no boiler should be allowed to go so long without careful examination for a sufficient amount of corrosion can take place within the time to change the condition of the boiler from that which would be considered safe to that which might be positively dangerous and unreliable under ordinary conditions of usage. A practical knowledge of the subject would indicate that every engineer, worthy of the name, who had charge of a boiler would make a careful examination of both the inside and outside, at least, every month, closely examining all parts for signs of corrosion, grooving or pitting, sounding plates and laps in joints for unusual and unsafe conditions.

The safety valve is a factor that cannot be ignored, and the usual practice of opening the valve or causing it to blow off at least once per day, does not really seem sufficient to be a guarantee that it will perform the duty required of it just at the time it should work to best advantage. A safety valve may readily stick, especially those that are constructed to prevent the steam blowing into the engine room whenever the safety valve performs its duty. A valve of this kind is usually fitted with a cap surrounding the stem through which it is intended to move without friction, and also without permitting an escape of steam around the sides of the stem, and for this reason there is great danger of its sticking, and that without any indications which will call attention. Valves of this kind, whenever inspected, will be found to have the stem thickly covered with mineral matter which has been carried off with the steam and finally adheres to the stem with such tenacity that it can only be removed by filing or sand-papering. Such accumulation enlarges the stem and a similar deposit in the cap often produces such a condition of affairs that to start the valve from its seat, even when the lever is removed, requires considerable of an effort. Under such conditions the valve is not corroded to its seat as usually expressed, but the stem and cap are caused to adhere on account of the accumulation deposited from the flow of steam, which carries with it more or less water from the boiler, which in turn deposits the sedimentary matter

carried over.

As near as can be judged from what we find, the water in a boiler while in a state of ebullition is covered with a scum formed from mineral and vegetable matter introduced into the water, and in some cases oil is also found which is brought in from the exhaust. It is generally shown that when water is carried over with steam, a large amount of this sedimentary matter is carried over also, and frequently a great quantity of it passes through the engine and out of the exhaust pipe, as may be noticed by the streaks of whitewash with which the exhaust pipe is marked. These substances when blown out through the safety valve are what causes such trouble, and to keep a boiler entirely free from such accumulation on the surface of the water would require the frequent use of a surface blow-off, or the constant use of a mechanical boiler cleaner. But as the proper care of a boiler requires a consideration of a number of points that cannot be given in a single article we will continue the subject in another paper.—*Weekly Stationary Engineer* (Chicago).

A DEEP HOLE IN THE GROUND—WILL BE THE DEEPEST YET.

NE of the most important scientific explorations into the depths of the earth ever undertaken will be carried out near Wheeling, under the joint auspices of the United States government and the city of Wheeling. Some months ago, says an exchange, the Wheeling Development Co. began drilling a well near the city in search of oil or gas. It was determined to bore as far as possible. The hole has already reached the depth of 5,100 feet, within 500 feet of the deepest well in the world. In this distance a dozen thick veins of coal have been passed, oil and gas both struck but not in paying quantities, and gold quartz, iron and many other minerals found. The hole is eight inches in diameter, and the largest in diameter of any deep well in the world. Professor White, State Geologist, has succeeded in getting the Government geological survey officers interested in the exploration, and the result is that the hole will be drilled to the depth of one mile. Then the Government will take up the work under the direction of two expert officers of the geological survey, and drill into the earth as far as human skill can penetrate. The idea is to take the temperature and magnetic conditions as far as possible and by means of an instrument constructed for the purpose a complete record of the progress and all discoveries made will be kept and will be placed in the geological survey exhibit at the World's Fair.—*The Mechanical News*.

BUSINESS IN BUSINESS.

A lithographing establishment in Buffalo recently received from a Western customer a circular note announcing the death of the head of the firm. It was given to the clerk with instructions to write a letter of condolence in reply, and this is what he supplied:

"We are greatly pained to learn of the loss sustained by your firm, and extend to you our heartiest sympathy. We notice that the circular you sent us announcing Mr. —'s death is lithographed by Chicago parties. We regret that you did not see it in your way to let us figure on this job. The next time there is a bereavement in your house we shall be glad to quote you on lithograph circulars, and are confident going to do about it?"

that we can give you better work at less cost than anybody else in business. Trusting we may soon have an opportunity of quoting you prices, we remain with profound sympathy, yours truly."—*Buffalo Courier*.

MILWAUKEE ITEMS.

THE family of the late Edw. P. Allis will erect a beautiful monument to his memory at Forest Home cemetery. The monument is to be of pink tint Rhode Island granite and Tennessee marble, and will be in the form of a temple, 35 feet square and 20 feet high. It will contain eight catacombs below the ground surface and eighteen crypts above ground, in all, receptacles for twenty-six caskets. The design was drawn by Hanford White, of New York, one of the best monument architects in the country. The cost of the monument is not to exceed \$35,000, and, though there are more costly ones, the builders predict that it will be the best and handsomest one in the country.

S. H. SEAMANS, Esq., the treasurer of the Millers' National Association has recently been blessed with an addition to his family of a handsome baby boy. We congratulate Mr. and Mrs. Seamans on the happy event.

THE Wilkin Manufacturing Co. have taken the contract to build and equip a \$45,000 addition to the Pfister & Vogel tannery.

THE employes of the Edw. P. Allis Co. had their annual excursion and picnic, Aug. 15. The employes with their families and sweethearts were conveyed by two special trains to Port Washington, a beautiful suburban village 25 miles north of the city on the banks of Lake Michigan.

H. Hoecker, the London representative of some Milwaukee flouring mills, was in the city several days during the latter part of July.

THE British Baker, Confectioner and Purveyor in referring to the tendency of British millers to add baking plants to their mills, utters the following words of warning: "We contend that no man can be both miller and baker to his own advantage in both vocations. Each of these is such a true science and art that it is only by devoting himself to one alone that a man can reasonably hope to attain a complete mastery of the one or the other. The subdivision of labor whereby the baker is provided with the flour whence the bread is to come is wholesome and wise, and it is certainly to the interest of the consumer too. The advanced miller has quite as much as he can well do in these days to convert his wheat into merchantable flour, and there he should stop. He and the baker are correlative terms, and as such they must remain. It is monstrous for the miller, in our thinking, to put forth the hand of rapacity and to try to filch away the narrow profits of the baker. Let the miller bear well in mind the peril he incurs for himself and his class. Let the British baker be but once roused to a full sense of all that is meant by those hybrid anomalies of manufacturers, miller-bakers, and it will be perceived very quickly that the baker has a ready resource in the foreign flour salesman, who will never fail him, and by and through whom he can bring to bear on millers, disloyal to those whom they serve, a pressure which would soon be found to be irresistible. On the other hand, the miller will say to the bakers the words of the illustrious Boss Tweed, 'What are you going to do about it?'"

OUR LEGAL DEPARTMENT.

Specially Prepared for The United States Miller and Milling Engineer, from the Latest Decisions.

FAILURE OF CONSIDERATION NOTE.—

A note was given in consideration of forbearance from legal proceedings against a person, and when it was sued upon he set up a failure of consideration upon the ground that one of the chief motives which induced him to execute the note, was to keep the matter from his family and his church, and that it had become public, and therefore that he should be relieved from payment of the note. This is not sufficient to amount to a failure of consideration unless it appears that the person to whom the note was given agreed to keep the transaction secret and had failed to keep the agreement.—Swanson v. Griffin, Supreme Court of Mississippi, 8 South, Rep. 411.

ASSIGNMENT OF PATENT.—A patentee assigned to a firm of which he was a member all his interest in the patent "for their full, free, and exclusive use during the life of the partnership." Said firm assigned to another firm, of which the patentee was also a member, all the assets of the former firm, and agreed that during the existence of the second firm no right to manufacture or sell under said patent should be given to any third person. The second firm only acquired the use of the patent during the existence of such firm.—Nichols v. Murphy, Supreme Court of Illinois, 26 N. E. Rep. 509.

CONVEYANCE NOT FRAUDULENT AS TO CREDITORS.—After a person has loaned money to a member of a firm for its use it will not be fraudulent for him, as against other firm creditors, to take a deed of the partnership property at a fair market value. Nor would it change the case if he knew that the partner had a fraudulent purpose in conveying it to him, so long as he acted in good faith. That when the real estate was transferred it was orally agreed that one of the partners should remain on the land, without payment of rent, to care for the cattle of the party to whom the conveyance was made, would not impeach the conveyance for fraud. It is also lawful for a person to purchase personal property of an insolvent, if it is done without knowledge of fraud, and creditors cannot have such a transaction set aside.—Strong v. Swafford, Supreme Court of Iowa, 47 N. W. Rep. 1023.

CREDITORS MUST FILE CLAIM IN TIME.—Under the section of the Iowa Code, providing that in assignment for the benefit of creditors, "all creditors who shall not exhibit their claim within the term of three months from the publication of notice, shall not participate in the dividends until after the payment in full of all claims presented within said term, and allowed by the court," a non-resident creditor, say one in New York state, will have no right to participate with the creditors who present their claims within that time, if he fails to do it, even though there be equitable considerations for it, such as that he has had no actual notice of the assignment, because his name not appearing on the books of the insolvent no notice by mail could be sent to him by the assignee, as required by law.—Carter v. Lee, Supreme Court of Iowa, 47 N. W. Rep. 1014.

ASSUMPTION OF AGENCY.—To recover in a suit brought for goods sold and

delivered, it becomes necessary to prove that the person who got them and to whose account they were originally charged, was the son of the party sued. No express promise of the latter's to pay for them was shown. A letter written by the person who got the goods claiming agency would be no evidence of it. That it was shown to be the rumor of the neighborhood that he was a son of the person sued would be offset by the testimony of the latter that he was not. Such relationship ought to be established by better evidence than a mere neighborhood rumor. It must be proved to be a fact.—Sax v. Davis, Supreme Court of Iowa, 47 N. W. Rep. 990.

INTENTION DETERMINES CHARACTER OF FIXTURES.—Whether many of the articles necessary for the use of premises and attached by nails or otherwise are to be regarded as part of the realty will depend on the intention of the owner. That shelving and counters are nailed to cleats fastened to a house and are necessary for the use of the premises as a store, and have been so used for even so long a time as twenty years, does not constitute them a part of the realty. It must appear in order to make them such that the owner of the property intended that they should be regarded as a part of the realty. Therefore without proving such intention a person could not take them under a mortgage of the premises.—Johnson v. Moser, Supreme Court of Iowa, 47 N. W. Rep. 996.

DEATH OF WORKMEN IN HAZARDOUS EMPLOYMENT.—In an action for the wrongful death of a furnace employee, who was caught in a trench by flowing molten iron that had escaped prematurely from a "boil" formed in the "run," and for the relief of which deceased and other laborers were digging the trench, it is competent for defendant to show that other well-regulated furnaces used "stock-house men," such as deceased and his co-laborers in the trench were, for the purpose of digging such trenches, although the ordinary duties of that class of laborers gave them no experience or training in respect to that kind of work. A charge that, however slight the negligence of deceased may have been, "if it was such that but for the negligence the accident could not have happened," there can be no recovery, is not erroneous where the only negligence on the part of the deceased consisted in not getting out of the ditch when ordered to do so, or when he saw or should have seen the molten iron flowing towards him, since such negligence, if it exists, is necessarily the proximate cause of the injury.—Holland v. Tennessee Coal Iron Railroad, Supreme Court of Alabama, 8 South Rep. 524.

DELIVERY OF TELEGRAPH MESSAGE.—In order to sustain an action for damages for failure to deliver a telegram, it must be shown that a contract, actual or implied, existed between the sender of the message and the company. Where a man writes a message on a leaf of his note book, tears the leaf out and sends it by a messenger to the telegraph office, without paying for, offering to pay or agreeing to become responsible for the charges for sending it, no contract exists between the parties, and no recovery can be had against the company for failure to deliver.—Western Union Telegraph Co. v. Lindell, Supreme Court of Mississippi, 8 South Rep. 510.

A GOOD IDEA.

SECY REYNOLDS of the Michigan State Millers' Association sent out the following circular to members, which we think might well be imitated by other state associations. We quote his circular letter in full:

"In the report of the proceedings of the July Meeting of the Association, a copy of which is herewith enclosed, you will note a resolution introduced by Mr. Jenks, relative to reporting the Jobbing Prices of Flour and Feed in each month's local market and also a supplementary resolution introduced by Mr. Chatfield, defining my duty in regard to these reports. It was discovered upon comparison by members present, that a wide difference existed in local jobbing prices and some trouble has been experienced when members are competing in each others markets because the competing mill did not know the local members' price.

To obviate this difficulty and to aid each member to get as high a price as surrounding conditions will warrant, these resolutions, after a full discussion, were without a dissenting vote passed.

Hereafter, you will give on the back of your regular report and in addition thereto, the prices at which you sell your local jobbing trade, Straight and Patent Flour, Bran and Middlings, and the average price you paid for wheat for the week reported. This applies to all members.

My report will then read something like this, taking one town as an example under the head of

LOCAL JOBBING PRICES.

Straight Patent. Bran. Middlings. Wheat. Portland. \$4.50 \$6.00 \$12.00 \$14.00 etc. I think you will all see the advantage to be gained by the new rule. It will enable each one to see at a glance whether they are paying more for wheat or getting less for flour than their neighbors who are similarly situated as to wheat supply and transportation facilities and it will be notice to competitors what the local prices are, and if anybody should be so foolish as to give a fictitious price his competitors will soon discover the deception and govern themselves accordingly.

The time is fast going by when each member of a trade or business lies in ambush with a club ready to cripple or kill every other member of his trade or business. The exigencies of the times are forcing a broader view of things and compelling a closer union of personal interests, so much so that the conflict is rapidly passing from the individuals of a trade or business contending with each other, to the trade or business itself, which standing as an unit, now takes up the fight for its rights with other trades and kinds of business, wherever interests clash.

If the members of this Association will look at the situation today, as sooner or later you will be compelled to look at it, it would be money in your pockets, and the cut-throat competition, which you meet at the sea-board and which is unnecessary kept up at home, could be entirely eliminated from the home trade. Will you see it now, or later?"

MILLING AND MECHANICAL NOTES.

POWER AND TRANSMISSION in an article entitled, "What a Boiler Should Be," says: "In the first place it should be safe. Then it should be simple, convenient to get at, around and into; easy to handle and repair; compact; quick to steam, constant in its circulation, and steady, too; free from smoke, able to work with any kind of water, good, bad, or indifferent; and dry steamer; and, of course, economical of fuel. In order to be all these things, the heating surface must be so arranged as to best take the heat from the gases of combustion, and so as also to let the steam which is generated get away from those surfaces as rapidly as possible. It must be strong enough to stand any pressure that can be got in it by fair means; and should have a safety valve which will let off all the steam that can be generated in it, even if none is being drawn off. There must be no place where unequal expansion will make the boiler its own enemy. It must be saving of fuel, not only at some one rate of steam production, but at the regular rated capacity; and

while it cannot be expected that a boiler will do as well with bad fuel, bad water and bad firing as with all of these three good, it must be economical with all three bad."

A CORRESPONDENT of the *American Machinist* writes: "I want to enter a protest against the habit that men have of trying, in setting forth the merits of their own manufacture, to belittle what others do. I don't believe it helps the case a bit; on the contrary, I believe it prejudices it. When I read a circular I want to find out what a given machine will do; not what some other machine will not do."

THE different kinds of metals used for bearings produce different degrees of friction, while the same metals may produce different degrees of friction according to the lubricant used. It has been stated by some of the prominent authorities that under ordinary conditions the frictional resistance between two surfaces in sliding contact were equal to .25 of the weight pressing them together, but modern practice has demonstrated that with a good combination of metals and a good lubricant the friction may be reduced to less than one-half that amount.

ELECTRIC motors have been applied to upward of 140 different uses, and the number is still increasing. The sizes of the motors include those of from a mere fraction of a horse power up to one of 5,000 horse power, which is in operation near London, England.

AWKWARD MECHANICS.—Mechanics are often addicted to what can only be called awkwardness. In getting at a new or strange piece of work, some men make so much fuss, and appear to such poor advantage, that surprise is expressed that such an incompetent man should be employed. Most of this awkwardness, or "fumbling," could well be avoided by the man if he would only see himself as others see him. His attention is too much taken up by some detail of the matter, and he does not comprehend the whole amount of his work. A thorough mechanic gives a thing a thorough thinking over before he proceeds to execute any work. If the awkward mechanic would learn to think more, he would appear to much greater advantage, and would be worth more money to his employer.

SOME young men can make themselves into good machinists in six months, some in twelve months, some in two or three years, and some will never get there with the traditional seven years' apprenticeship, and had better do something else. But of all the different kinds, give me the six months man. He is the one who was "born a machinist," and he will continue to learn and become more valuable all his life.—James Francis in *American Machinist*.

PURCHASE ON FUTURES.—Where a broker sues to recover commissions on purchases and sales of goods made for another, the customer can show that the understanding between them was that the actual goods should not be delivered, but that a settlement should be made according to the difference in prices, and proof of this is a complete defense to the action for commissions, as such a contract is a wagering agreement and therefore illegal.—Hentz v. Miner, Supreme Court of New York, 12 N. Y. Supp. 474.

A MILLERS' STRIKE IN 1552.

A GERMAN writer observes that "strikes, and 'boycotts,' too, for that matter," by which term he presumably means "picketing," were hardly less common in ancient times than they are today. He gives the history of a miller's strike in the imperial free town of Villingen in the year 1552. It is recorded that on the morning of Monday, October 6, the millers of the city, masters and men, struck work and left the town in a body, departing to Hafingen, where they maintained themselves at their own cost. Their ground of complaint is not made clear, but it is plain that they had in some way fallen out with the Town Council, who claimed supreme jurisdiction over all the city guilds, and were in their way as strict disciplinarians as our present masters of Spring Gardens. The council proved fully equal to the occasion, for as soon as the malcontents left the city they brought four millers from Oberndorf, who were able to grind enough corn to keep the wolf from the citizens' doors. The dissidents then began to be alarmed, and presently intercessors invoked the mercy of the city fathers on their behalf. It was urged that they had acted "heedlessly," but the council was in no hurry to relent. The situation of the strikers became serious; at the end of eighteen days they had "eaten 40 gulden," and were as far from their end as ever. In those days Australasia was an undiscovered bourne, and there were no benevolent Melbourne merchants to remit large sums by wire to strike committees. Again was the city council approached, when it replied that if the millers had come to their senses they might return and take the punishment of "the city." Slowly and sadly the strikers retraced their steps, and on the evening of Saturday, October 27, they were again in Villingen. Their exodus had lasted just three weeks. The contrite millers were at once summoned before the city fathers assembled in the council. All the strikers were there, except two of the fourteen masters, who, we are told, afterwards came in. As a token of submission the millers were commanded to lay their swords on the table, and this they did. Then eight of the culprits were committed to the city goal. Early on the Monday morning following the council were assembled and heard the pleadings of the prisoners' wives, who all appeared to beg for mercy for their husbands. Nor were these the only intercessors; Count Friedrich of Furstenberg, and other noblemen, came on the same mission, which is proof presumptive that the millers had acted under some strong provocation. At last the city fathers consented to let the strikers off with a fine, whereupon the Millers' Guild had to collectively enter into a bond to pay within two years a fine of 200 gulden. And so ended the great strike of the millers of Villingen in the October of 1552.

TRADE PAPERS AND MECHANICS.

A N INTERESTING discussion is going on in some of our contemporaries as to the interest taken in trade papers by our mechanics. Opinions vary in this as in all other matters of dispute, but are more or less coincident in the conclusion that the average mechanic takes but little interest in any paper devoted exclusively to his particular trade. If this is so, it is a matter of regret. It is a blind neglect of the most easily obtained and available means of trade education,

which, in these progressive times, is becoming as much a necessity as ten fingers and two good eyes. To be acquainted with current thought and the latest development of mechanics, and that of the best kind and at low cost, would seem to be a desideratum so apparent to the ordinary mind that any means of supply would be eagerly monopolized. Facts, however, seem to reverse this conclusion.

It is true that a trade journal is not a dime novel; it is not devoted to fiction. It may lack the spice of cheap literature that smothers the odor of bad brandy with the aromatics of cloves or coffee, and it is not to be expected of men toiling all day over forges, anvils or lathes, that what is left of them at night should be spread like a grease spot over a rehearsal on paper of what they have had enough in perspiration and backache. A change of interest is after all as good for the soul as is a change of clothes or food for the body; but with this all admitted, it would seem to be simply a matter of common sense, that a mechanic with the opportunities of improving under his nose should utilize the advantage in the interest of his pocket if not of his mind. The means to do this are cheap and plentiful. They are in every man's reach, and he need not glue his nose to the pages of what he reads, or grind his mental grist exclusively on technical literature to keep himself posted on what is really the source of his bread and butter.

It is, however, a fact that with too many even of our skilled workers, their interest is too often limited to so many hours a day and so many dollars a week. There are, happily, many exceptions, and it is from this class and type that the leading men in the industrial world have graduated into mechanical leadership. It is a matter of surprise, and with none more than with those who have the best knowledge of the facts, that the best-edited trade papers of the country have not a due appreciation either of employers or men.—*The Age of Steel* (St. Louis).

OIL IN BOILERS.

IT seems to be proved beyond a doubt that kerosene oil has a beneficial action upon the interior of steam boilers in a section of country where lime water is used for feed. Some engineers open the boiler once a week and turn in from one to three quarts of either crude oil or kerosene. Other engineers follow the practice of injecting a pint or so of oil every day. Some men have rigged up special apparatus for injecting oil. This is hardly necessary, especially where a power feed pump is used. There is, or should be, a small pet cock tapped into the barrel of every power pump. If a bit of rubber hose is squeezed on over this pet cock, and the end of the hose dipped into the can containing the oil, it is quite easy to open the pet cock during the suction stroke of the pump, and close it during delivery. This action for a dozen strokes will suck up all the oil and send it en route to the boiler.

When an injector is used a pet cock may be tapped into the water supply pipe just back of the injector. If the water supply flows through the instrument it may be necessary to throttle it slightly when oil is to be administered to the boiler. When this is done the rubber hose can be applied to the pet cock in a manner similar to that described for the power pump. When

the injector is working well turn on the oil and it will be quickly soaked into the injector and discharged toward the boiler. Care must be taken not to open the pet cock to its full extent when passing oil through an injector, or the large body of oil acting differently from the water may cause the injector to "break." If this happens, the engineer may get a dose of oil and greasy water on his face and shirt front, but no more serious action will occur. The steam pump may be given oil in a similar manner, but it will not pay to harness up the air chamber pet cock for this purpose.—*Paper Trade Journal*.

KEEPING UP STEAM OVER NIGHT.—An engineer has been telling a contemporary how to keep up steam in a boiler over night without banking. First, the damper is closed tightly and ashes drawn to the ash-pit door, making it air-tight. Then the smoke-box door is opened a trifle, the result being that the engineer had 15 to 25 pounds pressure in the morning. With a setting that is not full of leaks, it should be easy enough to keep up pressure over night without any fuss, and if not, there is some leak somewhere that should be attended to. The leak may be of steam, through faulty connections or in a cracked setting, letting the cold air come in contact with the boiler. Then some engineers have an idea that the top of the boiler should not be covered, and here is an avenue for the heat to escape. I have let the fire under a boiler go out early Saturday afternoon, and on Sunday afternoon have found 25 pounds pressure, and nothing was done but close the damper, furnace door and ash-pit door. The best practice is to bank the fire, but when this is done, there is more fear of a pressure too high than otherwise. Any one who has a steam-pressure recorder will note that the pressure runs very high during the night, and passing through any of the city streets late at night, the hiss of steam escaping from safety valves is plainly heard, and leads to the suggestion that some may be in condition less responsive to the excess in the pressure allowed.

A MYSTERIOUS ART.—Three slices of bread shown by a Lewiston (Me.) flour dealer spoke for themselves. Placed side by side they shaded very abruptly into three strikingly distinct tints. One was of the hue of graham, and fell into your hand like a half-baked brick. Another was nearly white, and would be greeted with pleasure by a hungry man. The third was so white that snow would have to be bleached to compare with it; moreover, it possessed that spongy texture which is so gratifying to the eater, and a source of so much pride to the cook. It threatened to dissolve in one's mouth, and would tempt a gorged epicure. It would not be a strain to say one could distinguish between them in the dark. The flour dealer deposed that the three slices of bread were made by three women from one and the same kind of flour. The cook who produced the first slice was dissatisfied with the flour, while the woman who made the bread last mentioned said she could make good bread out of flour that

didn't cost less than four dollars a barrel. It is evident that bread-cooking is not one of the lost arts, but is an art which still contains sufficient mystery to puzzle many and confound not a few of the angels who hover over our flour barrels.

American Steam Gauge Co.

—SOLE MANUFACTURERS—

Bourdon Steam Gauges

WITH LANE'S IMPROVEMENT.



THOMPSON'S

Improved

Indicator

Over 2,500 in Use.

AMERICAN POP SAFETY VALVES

For Locomotive, Stationary and Portable Boilers, and Instruments incident to the use of Steam. Send for Price List I.

36 Chardon St., BOSTON, MASS.

Send for Catalogue K.

WHAT A CORN PALACE IS LIKE.

Only those who have visited the previous corn palaces at Sioux City can have anything like an adequate idea of the architectural possibilities of the product. In building the palace, a large structure is first erected of lumber of a shape that will carry and show to advantage the multiform decorations with which it is to be adorned. It is in form lofty, with broken lines, pinnacles, buttresses, bridges, gables, ornamental windows, etc. Over every inch of this wooden surface is laid corn and kindred plants in architectural harmony and in a multiplicity of designs. Corn is employed in the stalk, the ear, the kernel, and even the husk has its decorative uses. The various colors of the cereal permit of a wide range of shading and coloring, while the artistic possibilities developed from year to year in building the palace admit of the production of effects that are as startling as pleasurable. The interior work is especially fine and elaborate, the kernel of the corn being largely employed and producing amazing and unique effects. Upon the walls are wrought pictures illustrating farm scenes, nursery tales, etc., with a fidelity surprising to those who have not before seen at one of the Sioux City Corn Palaces the varied artistic availability of the grain, and flowers, and frescoes, figures of persons and animals, and many artistic and ornamental shapes make the palace a structure of unique beauty and imposing grandeur.

The great corn palace event of 1891 begins October 1st and continues until the 17th inclusive.

THE Seattle, Wash., Telegraph, has reason to believe that R. Hunter Craig & Co., of London, England, will soon erect a large flouring mill in that city. Mr. Craig has been visiting Seattle for some time, and has been investigating the matter thoroughly.

June, July and August.

The most charming Summer Resorts, of which there are over three hundred choice locations, are to be found in Wisconsin, Iowa, Minnesota, South Dakota and the Peninsula of Michigan, along the lines of the Chicago, Milwaukee & St. Paul Ry. Nearly all are located near lakes which have not been fished out.

These resorts are easily reached by railway and range in variety from the "full dress for dinner" to the flannel-shirt costume for every meal.

September and October.

The finest shooting grounds in the Northwest are on and tributary to the lines of the Chicago, Milwaukee & St. Paul Ry. The crop of Prairie Chickens will be exceptionally good this year; also Ducks and Geese. In Northern Wisconsin and the Peninsula of Michigan splendid Deer shooting is to be had. Full information furnished free. Address, GEO. H. HEAFFORD, Gen. Pass. Agt., Chicago, Ill.

MANUFACTURING SITES FOR SALE!

The undersigned owns a few of the *best* manufacturing sites in the city of Milwaukee, adjoining those now occupied by the *Milwaukee Car Wheel and Foundry Co.* and the magnificent plant of the *Fuller-Warren Stove Works* which cover nearly ten acres of ground. Best of railroad facilities. Parties desiring a suitable location should investigate this. Address,

E. HARRISON CAWKER,

36 & 37 Loan & Trust Building.

MILWAUKEE, WIS.

STOLEN SECRETS.

One hundred years ago, before the day of protection by patents, what a man discovered in the arts and mechanics he concealed. Workmen were put on oath never to reveal the process used by their employers. Doors were kept closed, artisans going out were searched, visitors were vigorously excluded from admission, and false operations blinded the workmen themselves. The mysteries of every craft were hedged in by quickset fences of empirical pretension and judicial affirmation. There used to be, close by Temple Bar, in London, an old chemist's shop. The proprietor of it in days gone by, enjoyed the monopoly of making citric acid. More favorably circumstanced than other secret manufacturers, his was a process that required no assistance. He employed no workmen. Experts came to sample, and assort, and bottle his products. They never entered the laboratory. The mystic operations by which he grew rich were confined to himself. One day, having locked the doors and blinded the windows, sure, as usual, of the safety of his secret our chemist went home to his dinner. A chimney-sweep or a boy disguised as such, wide awake in chemistry, was on the watch. Following the secret keeper so far on his way to Charing-cross, as to be sure he would not return that day, the sooty philosopher hied rapidly back to Temple Bar, ascended the building, dropped down the flue, saw all he wanted, and returned carrying with him the mystery of making citric acid. A few months after, and the price was reduced four-fifths. The poor man was heart-broken and died shortly afterwards ignorant of the trick by which he had been victimized.

IS ANOTHER RICHMOND IN THE FIELD?

A REPORT from Chicago says that Phillip D. Armour, who now controls the provision trade there, is anxious to control the grain trade as well, and it is said he is now engaged in buying up the principal elevators in the Western country. Already he controls the provision pit on the Board of Trade, and now he proposes to fix the price of wheat. It is believed he can do it without much difficulty, for he can control more money than any man in the West.

The pork king wants to change the manner of grain inspection, and this can only be done by his getting control of the elevators. It is said he can secure all the elevators in the West except those in control of the English syndicate. They get good interest on

their \$8,000,000 investment. They would have no objection, however, to going in with Armour, who would put prices on a firm basis. This scheme, which seems to be approaching a head, has been a favorite idea with him for some years past.

THE WINONA MILL CO. A WINNER.

A Chicago judge has made an important ruling on insurance in a case in which the Winona Mill Company was the plaintiff. The company had insured its plant in thirty companies, through a single agency. The policies forbade further insurance on the property, but attached slips made an exception as to grain and flour on hand. The mill was burned, entailing a loss of \$300,000. After the fire the insurance companies discovered that the mill company had taken out \$100,000 more insurance, and refused payment. The mill company brought suit, claiming that the attached slips were substitutes for the clauses prohibiting additional insurance, and this was sustained by the court. The aim of many insurance companies seems to be not to insure patrons against loss, but to make them believe they are insured.

"CATALOGUE of Farm Lands, Coal Lands, Iron Lands, Timber Lands, Improved Farms with full description, price and terms, of properties for sale on the line of Queen & Crescent Route." The above is the title page of a very neatly gotten up catalogue, of sixty pages, which is being mailed free to all persons who will make application to Mr. D. G. Edwards, the General Passenger Agent, at Cincinnati, O.

FOR SALE OR FOR RENT.

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RECENT PUBLICATIONS

PORTRAITS of the emperor and empress of Germany, which form a double frontispiece to The Century, accompany a candidly-written paper of personal interest, by Poultney Bigelow, on the German emperor. The paper is also illustrated with sketches of the winter and summer residences of the emperor, the throne room, the white saloon in which parliament is opened, etc. A unique paper contributed by Gustav Kobbe deals with "Life on the South Shoal Lightship," which, year in and year out, is anchored 24 miles seaward of Nantucket. The artist Pennei contributes another illustrated paper on "Play in Provence," the subject being "The Grand Arrival of the Bulls," and "The Ferrade," in the neighborhood of Arles. Another artist contributor who supplies word-pictures as well as sketches is George Wharton Edwards, who in "Moglashen" gives a humorous character-study, which is the first of a series of "thumb-nail sketches." William B. Farwell contributes a paper on "The Cape Horn Route," so largely employed by the Argonauts in the early days of 1849. There are four short stories, and, in addition, chapters of "The Squirrel Inn," by Frank R. Stockton, and "The Faith Doctor," by Edward Eggleston. "The Press as a News Gatherer" is the subject of a paper by William Henry Smith, manager of the Associated press. The literary feature of the number is a paper by the Rev. Henry Van Dyke "On the Study of Tennyson," in which he includes a very useful classification of Tennyson's poems. A full page engraving of Alexander Harrison's painting, "Le Crepuscule," is followed by "Open Letters," poems and editorials, which, with several other papers, make up a brilliant number.

The current number of *Harper's Weekly* includes among its many attractive features a series of illustrations from instantaneous photographs of the recent Naval Review at Boston. The very popular series of illustrations relating to the Columbian Exposition is continued, this number containing portraits of the "World's Fair Committee." The illustrated Supplement embraces an interesting and exhaustive history of polo-playing, by Caspar W. Whitney, with a number of spirited illustrations by Frederic Remington.

HARPER'S BAZAR for this week presents, as usual, a rich variety of articles pertaining to the fashions, domestic economy, household management, etc., including a Pattern-sheet Supplement. Interesting articles are contributed by Colonel T. W. Higginson, C. De Hurst, Mrs. Agnes B. Ormsbee, and others. Mr. Hardy's new story, "Tess of the D'Urbervilles," is continued, and Charlotte M. Packard contributes a short but entertaining story, entitled "The Stranger at Hibbard's."

HARPER'S YOUNG PEOPLE for July 28th contains a story by Lucy C. Lillie, entitled "Tumble into a Fortune." J. Macdonald Oxley's entertaining serial, "Dick of Diamond Rock," is concluded. "Flying Hill Farm," by Sophie Swett, increases in interest as the narrative progresses. There are also articles and stories by David Ker, Kate Cotheal Budd, H. C. Watson, and E. H. House.

"CY. Ross" a novel by Mellen Cole has just been issued by the publisher, J. S. Ogilvie, 57 Rose St., N. Y. It is a pleasing story of life in the mining camps in California.

ELECTRICITY BY THE QUART.

A FEW days ago a middle-aged man entered the office of the Pittsfield, Mass., electric light station on business bent, says the *Journal* of that city. He produced a quart bottle and asked to have it filled with electricity. The genial manager of the concern soon discovered that the purchaser was in dead earnest, and further questioning revealed to the electrician, always on the alert for something new in his line, that the middle-aged man aforesaid had discovered a new use for the mysterious and, as Webster calls it, "subtle fluid." He with the bottle went on to explain that he had been told it was the best remedy known to remove lice from cattle, and that it could be bought in Pittsfield at the electric station for six cents a gallon. He only wanted a quart of it, and was anxious to get it and be off. He was finally convinced that he had been imposed upon, but did not express himself upon the subject of practical jokes. It is understood that the imposter has left Pittsfield.

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RECENT MILLING PATENTS.

The following list of Patents for Milling and Grain Handling Appliances, granted in June, 1891, is specially reported for the UNITED STATES MILLER by H. G. Underwood, Patent Attorney and Solicitor of Patents, No. 107 Wisconsin Street, Milwaukee, Wis., who will send a copy of any patent named, to any address for 25 cents.

No. 455,482, Grain Elevator, Benjamin Seidel, Cokato, Minn.
No. 456,077, Grain-cleaning Machine, Lewis Bartholomew, Philadelphia, assignor of one-half interest to David J. Waller, Bloomsburg, Pa.
No. 455,997, Grain-separator, Charles Closz, St. Ansar, Iowa.
No. 455,998, Grain-separating Screen, Charles Closz, St. Ansar, Iowa.
No. 456,428, Elevator and Conveyor, Charles H. Phillips, Boston, assignor to Charles J. Seymour, Brookline, Mass.
No. 456,518, Elevator and Conveyor, Charles H. Phillips, Boston, and Charles J. Seymour, Brookline, Mass., said Phillips, assignor to said Seymour.
No. 456,231, Milling Machinery, Henry J. Woolcott, Staten Island, N. Y., assignor one-half to Benjamin B. Stewart, same place.
No. 456,584, Flour-bolt, Orville M. Morse, Jackson, Mich., assignor to the Knickerbocker Company, same place.
No. 456,585, Flour-bolt, Orville M. Morse, Jackson, Mich., assignor to the Knickerbocker Company, same place.
No. 456,810, Dust-collector, John J. Gerard, Minneapolis, Minn., assignor to Edward P. Allis Co., Milwaukee, Wis.
No. 456,667, Spout-alarm for Grain Bins, Walter G. Adams, Racine, Wis., assignor one-half to E. H. Pease Manufacturing Co., same place.
No. 456,732, Grain-drier, Frederick H. C. Mey, Buffalo, N. Y.

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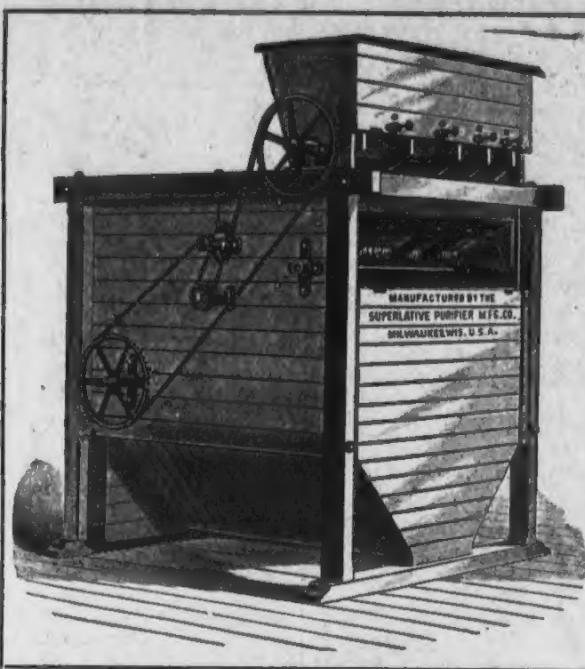
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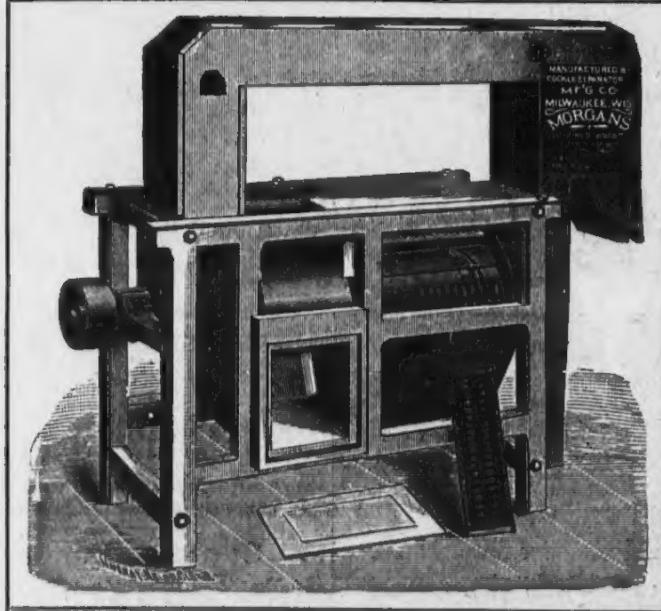
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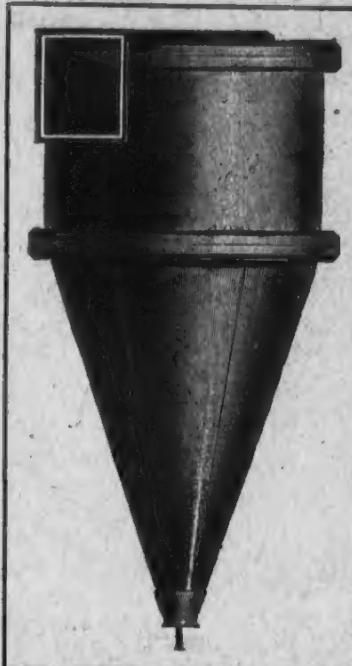
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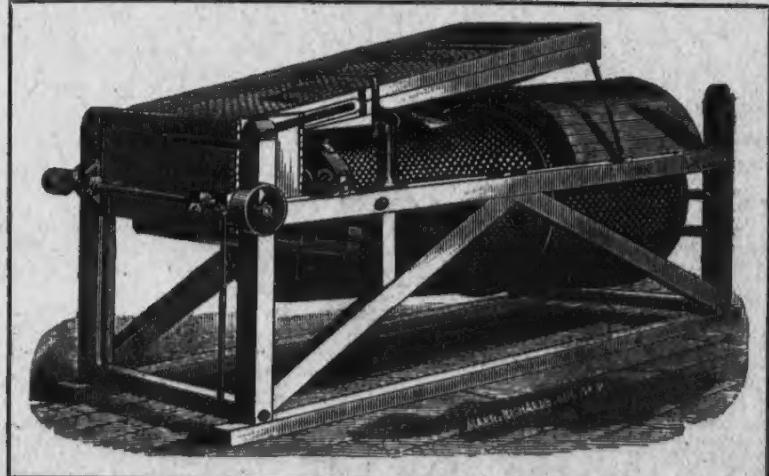
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